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CITY OF SCOTTSDALE

DESERT GREENBELT
PIMA ROAD THREE BASINS PROJECT

Interim Condition Design Hydrology Report

The Desert Greenbelt
SCOTTSDALE, ARIZONA

STANTEC CONSULTING INC.
7776 Pointe Parkway West, Suite 290
Phoenix, Arizona 85044
(602) 438-2200

SCI Project No: 28900082

March 1999

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Registered Professional Engineer (Civil)
CERTIFICATE NO.
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GEORGE V.
SABOL
Date Signed 11 March 99
ARIZONA, U.S.A.

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1.0 Introduction

The Pima Road Three Basins (PR3B) system consists of a series of in-line detention basins connected by open channels and closed conduit conveyance facilities. Regional and local collector channels convey runoff from the contributing watershed to the basins or to the inlets of the various conveyance facilities. This is for the entire, fully developed regional drainage system. The City of Scottsdale will develop this system in two phases. Phase 1 includes the entire system south of the Deer Valley Basin (DVB). In addition, during Phase 1 an interim sized DVB will be constructed. Construction of Phase 2 will not begin for several years. Therefore, it is necessary to analyze the impact of the existing condition watershed on the Phase 1 improvements.

The basis of the watershed hydrology used in this analysis including mapping, methodology and model input parameters is presented in the Watershed Hydrology and Concept Design Report (November 1997). That report was issued as a final draft in January 1997 under the title Desert Greenbelt Project, Pima Road Channel, Design Hydrology Memorandum, by George V. Sabol Consulting Engineers, Inc. (GVSCE). That report was prepared and submitted as part of the design review of the Pima Road Channel for the City of Scottsdale by GVSCE. In October 1996, the firm GVSCE was acquired by Stantec Consulting Inc. and the design review was subsequently completed by GVSCE. The previous Design Hydrology Memorandum by GVSCE was finalized by Stantec as part of the PR3B Project and was submitted as the Watershed Hydrology and Concept Design Report, November 1997, which is herein referred to as the Concept Hydrology Report.

The PR3B designs and analyses have identified areas and locations within the project watershed that require refinement or revision. These modifications to the Concept Hydrology Report are documented in the Ultimate Condition Design Hydrology Memorandum, March 1999. Unless otherwise noted, all hydrologic modeling parameters and methodologies are the same as those presented in the Ultimate Condition Design Hydrology Report.

The Interim Condition Design Hydrology Report serves the following purposes:

1. To provide the design hydrology for the Phase 1 Deer Valley Basin.

2. To confirm that discharges for interim conditions in the Pima Road Storm Drain and the Pima Road Conduits (to be constructed during Phase 1 to ultimate hydrology conditions) are not exceeded under interim conditions.

3. To confirm that design discharges and maximum water surface elevation in the Pima Freeway East-Basin (to be constructed during Phase 1 to ultimate hydrology conditions) are not exceeded under interim conditions.

It is noted that interim and ultimate hydrology conditions for the Pima Freeway West-Basin are identical. That is, the drainage area is the same, which is contingent upon the extension of the Powerline Corridor Channel so that discharge from the channel drains to the East-Basin rather than the West-Basin. Also, hydrologic land use for the West-Basin assumes existing conditions for both the interim and ultimate hydrologic analyses. This requires that retention, or other equivalent drainage facilities, be utilized in that drainage area as the land develops to restrict runoff peak discharges and volumes to those for existing conditions.

2.0 Watershed Base Maps

All watershed maps for this design report essentially duplicate those used in the Concept Hydrology Report, with the exception of any of the changes previously discussed. Table 1 summarizes the watershed maps used for this design report.

TABLE 1

Summary of watershed maps

Map Name	Map Title	Description	Map Scale
(1)	(2)	(3)	(4)
Plate 1	Overall Watershed Map	General map of the entire watershed showing all subbasins and points of concentration (2 sheets).	1 inch = 1,000 feet
Plate 2	DC Ranch Onsite Watershed Map	Map of subbasin delineation's, identifications, and routing schematic per Wood/Patel & Associates, Inc.	1 inch = 300 feet
Plate 3	Grayhawk Onsite Watershed Map	Map of subbasin delineation's, identifications, and routing schematic per Development Engineering, Inc..	1 inch = 400 feet

Topographic base mapping for the project hydrology is supplied by the City of Scottsdale. That mapping is either 1-foot or 2-foot contour interval topography compiled at a plan scale of 1 inch = 100 feet and is based on 1993 aerial photography. Survey control for the mapping was provided by Greiner, Inc. and the photogrammetry was performed by Michael Baker Jr. Consulting Engineers, Inc.

On-site hydrology maps for DC Ranch and Grayhawk are respectively shown in the Ultimate Condition Design Hydrology Report (Plates 2 and 3). DC Ranch hydrology modeling and mapping were obtained from Wood/Patel &Associates, Inc. Grayhawk hydrology modeling and mapping were obtained from Development Engineering, Inc. Subbasin naming and concentration point numbering for each of the models are maintained, and minor operational adjustments were made for insertion of those models into the PR3B modeling. In general, however, the models for both developments are unchanged.

3.0 Hydrology

The existing condition watershed, herein referred to as the interim condition watershed, as it impacts Phase 1 improvements is shown schematically in Figure 1. The "screened" subbasin lines represent the ultimate condition watershed where it differs from the interim condition. During interim conditions, only subbasins S51.1, 1A1, 1A2 and 1B will contribute runoff to the Phase 1 improvements upstream of the Deer Valley Road alignment.

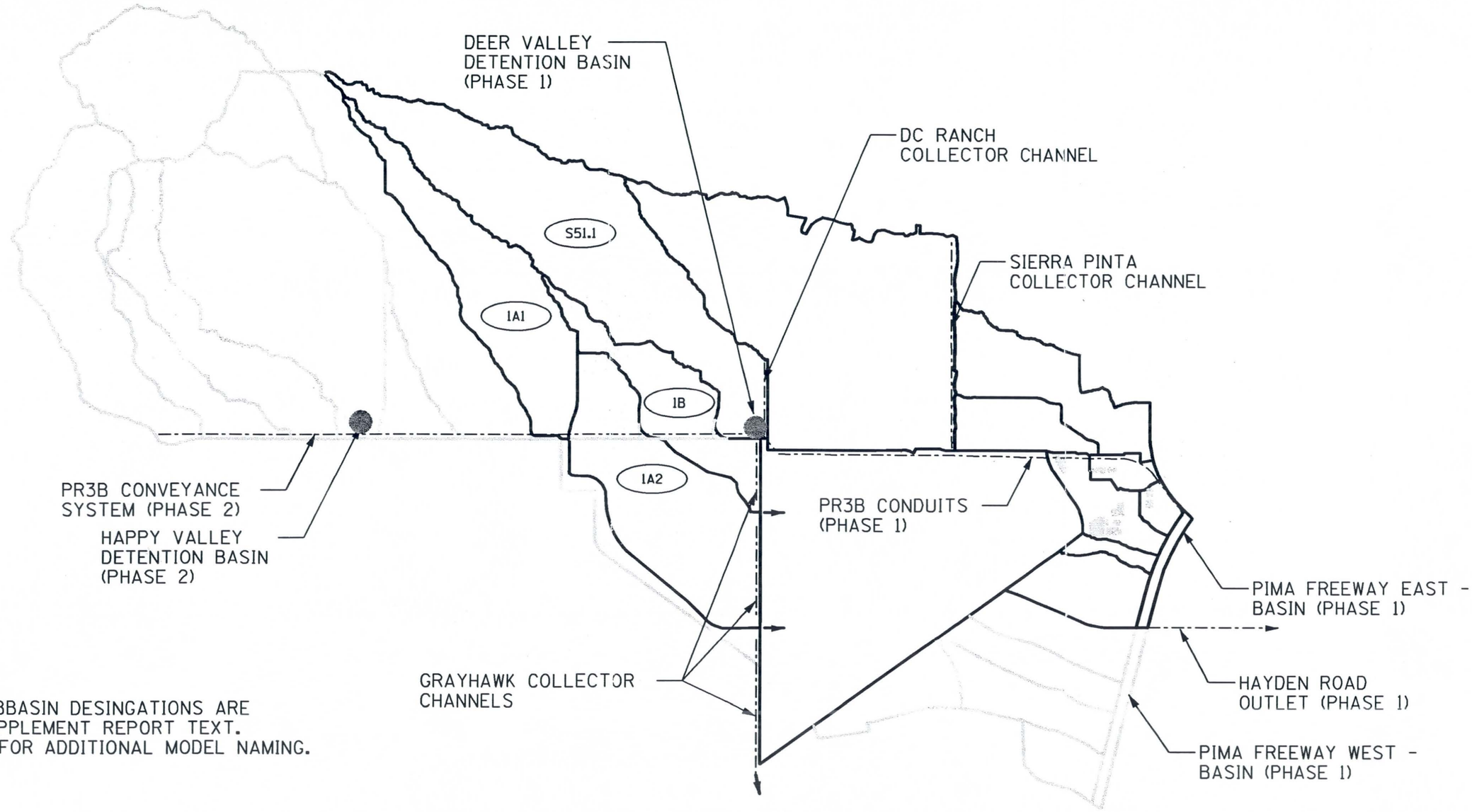
Runoff from subbasin S51.1 is intercepted by the DC Ranch collector channel and routed to the Phase 1 DVB. Runoff from subbasins 1A1, 1A2 and 1B is intercepted by collector channels that follow the Deer Valley Road alignment along the northern boundary of the Grayhawk development. Those channels convey runoff south through the development, ultimately discharging to natural washes at the southwestern boundary of the development along the Powerline Corridor.

The hydrologic models for the interim condition as opposed to the ultimate condition hydrologic models differ as follows:

1. The drainage area is reduced from 11.05 square miles for the ultimate condition to 6.9 square miles. See Figure 1 which illustrates areas not draining to the Phase 1 PR3B facilities.

2. The Happy Valley Basin (HVB) and conveyance facility from HVB to DVB are not constructed during Phase 1. That results in a loss of the detention capacity of the HVB.

3. Land use and hydrologic parameters for subbasins S51.1, 1A1, 1A2, 1B, 51B and 51C are adjusted from fully developed conditions in the ultimate condition models to existing conditions in the interim condition models.



NOTE:
SELECTED SUBBASIN DESINGATIONS ARE SHOWN TO SUPPLEMENT REPORT TEXT.
SEE PLATE 1 FOR ADDITIONAL MODEL NAMING.

LEGEND

- S51.1 — SUBBASIN IDENTIFIER
- ULTIMATE CONDITION WATERSHED DELINIATOR
- INTERIM CONDITION WATERSHED DELINIATOR
- COLLECTOR CHANNEL DELINIATOR
- DETENTION BASIN INDICARTOR

0 3000 6000 9000
SCALE FEET
HORIZ. 1"= 3000'

Stantech Consulting
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Phoenix, Arizona 85044
Phone: (602) 438-2200
Fax: (602) 431-9562

SCALE 1"=3000'	
JOB No. 28900082	SHEET No. 1 OF 1

PROJECT
PIMA ROAD THREE BASINS PROJECT
DESIGN HYDROLOGY
MEMORANDUM

SUBJECT
FIGURE 1
INTERIM CONDITION
WATERSHED SCHEMATIC

The Desert Greenbelt

3.1 REFINEMENTS AND REVISIONS

In general, the watershed delineation and subbasin modeling parameters for the interim condition watershed are the same as what is presented in the Ultimate Condition Design Hydrology Report, with the exception of the following specific changes (See Plate 1 for reference to model naming):

- All subbasin, routing and combine operations upstream of the Deer Valley Road alignment with the exception of the subbasin operation for S51.1 are removed.
- Three interim subbasins; 1A1, 1A2 and 1B are added to model off-site runoff to the Grayhawk development. Rainfall losses for those subbasins (specifically SCS Curve Number and percent impervious) are estimated to reflect current soils and land use conditions.
- Rainfall losses for DC Ranch off-site subbasins 51B and 51C are changed to reflect current soils and land use conditions.
- All subbasin, routing and combine operations upstream of the Pima Freeway West-Basin are removed.
- The watershed area on the PH record for the rainfall modeling of the 50- and 100-year, 24-hour storms is changed from 11 square miles to 6.9 square miles.
- Added combine operation C1A to provide a peak off-site discharge for Grayhawk.
- Added routing operation R1A1 to route flows from off-site subbasin 1A1 to the Grayhawk boundary.

Table A-1 of Appendix A summarizes the revised/refined subbasin modeling parameters for the interim condition hydrology models.

Currently the Powerline Corridor Channel, which was built as part of the Grayhawk development drainage system, ends at a box culvert under Thompson Peak Parkway. Runoff conveyed by this channel exits the culvert and flows southwesterly at natural grade in numerous small watercourses. The Powerline Corridor Channel ultimately will be extended south to the Pima Freeway East-Basin. During Phase 1, the Powerline Corridor Channel will be extended so that discharge enters the East-Basin rather than the West-Basin. At the time this report was prepared, the details of this

partial extension are not finalized. Therefore modeling of the extended Powerline Corridor Channel downstream of Thompson Peak Parkway and the subbasins south of the proposed channel are unchanged from the ultimate condition modeling.

3.2 DETENTION BASIN ROUTING CHARACTERISTICS

The design discharges for the Phase 1 improvements are contingent upon the routing characteristics of the detention basins. Since the PR3B system north of DVB will not be constructed during Phase 1, there will be no significant runoff that will enter the basin from the north. Therefore, an interim condition DVB is to be constructed which will receive runoff from the DC Ranch Collector Channel. That basin is sized such that the timing and magnitude of the peak outflow is the same as for the ultimate condition. This allows for the construction of the ultimate outlet works during Phase 1 so that during Phase 2, only the impoundment area will need to be enlarged. The Phase 1 DVB stage-storage-discharge relations along with supporting technical calculations are provided in Appendix B.

4.0 Watershed Model Results

The ultimate condition rainfall design criteria are unchanged for the interim condition model. Modeling is performed for the 100-year, 6-hour; 50-year, 24-hour and 100-year, 24-hour storms for both clogging and no clogging of the basin outlets. Five HEC-1 models are developed for the design of the Phase 1 DVB and the analysis of the interim condition watershed on the Phase 1 drainage facilities. Table 2 provides a brief summary of the various interim condition HEC-1 models:

TABLE 2

Brief Description of Interim Condition HEC-1 Models

	STORM				
	Frequency Duration		Outlet Conditions		
Model	**Years**	**Hours**	**DVB**	**PFE-B**	**Model Purpose**
I-1	100	6	u	u	Design discharge for DVB and maximum discharge from PFE-B for comparison to result from I-3.
I-2	100	6	c	c	Maximum water surface elevation in DVB and maximum water surface elevation in PFE-B for comparison to results from I-4.
I-3	50	24	u	u	Maximum discharge from PFE-B for comparison to results from I-1.
I-4	50	24	c	c	Maximum water surface elevation in DVB and maximum water surface elevation in PFE-B for comparison to results from I-2.
I-5	100	24	c	c	Determination of interim condition inundation limits for PFE-B.

NOTES:

u: No clogging of the basin outlet
c: 50% clogging of the basin outlet
DVB: Deer Valley Basin
PFE-B Pima Freeway East-Basin

Printouts of the output files for the HEC-1 models are provided in Appendices C through G. Digital input and output files are provided as Appendix H.

Table 3 summarizes the peak discharges for key locations and subbasins within the interim condition watershed upstream of the Pima Freeway East-Basin. Also summarized is the corresponding ultimate condition peak discharge. All of the discharges shown in the table are for the 100-year, 6-hour storm with no clogging of the basin outlets.

TABLE 3

Summary of Peak Discharges for both the Interim and Ultimate Conditions

	Drainage Area		**100-yr, 6-hr Peak Discharges**	
HEC-1 ID	Interim sq. miles	Ultimate sq. miles	Interim cfs	Ultimate cfs
S51.1	1.13	1.13	1,058	1,058
DVDB-O	1.13	6.14	246	251
C52A	1.26	6.27	374	389
C52	2.90	7.92	2,210	2,227
CPC5	3.00	2.10	1,475	1,242
C53	3.08	8.10	2,442	2,436
C53A	3.42	8.43	2,875	2,850
SCN6B	0.05	0.05	158	158
SCN6D	0.04	0.04	68	68
SCN6C	0.14	0.14	347	347
SCN5C	0.19	0.19	240	240
SCN6E	0.04	0.04	35	35
EAST-I	6.93	11.05	4,426	4,381

The interim condition peak discharges for concentration points CPC5, C53, C53A and EAST-I are greater than those calculated for the ultimate condition. With the exception of the discharge at CPC5, the increase is less than 2% and does not impact the hydraulics of the conveyance system at these points. Concentration point CPC5 is at the southern boundary of the Grayhawk development. The increase in the peak discharge for the interim condition compared to the ultimate condition is approximately 16%. **This requires that the extension of the Powerline Corridor Channel be designed for the interim condition discharge.**

5.0 PR3B Detention Basin Performance

The ultimate condition DVB outlet works are to be constructed as part of the Phase 1 improvements. The Phase 1 DVB impoundment area is sized such that the basin peak outflow and hydrograph timing are similar to that for the ultimate condition.

The Pima Freeway East-Basin is designed to detain runoff from the ultimate condition watershed. Since it will be several years before construction of the entire PR3B system is completed, the basin must also adequately detain the runoff from the interim condition watershed.

Table 4 summarizes the physical characteristics of the DVB for both the interim and ultimate conditions. There is no change in the Pima Freeway East-Basin physical characteristics for the interim condition. Table 5 summarizes the operational performance of both the DVB and Pima Freeway East-Basin for the interim and ultimate conditions.

TABLE 4
Summary of the Deer Valley Basin Characteristics

Design Condition	Basin Minimum Grade Elevation	Emergency Spillway Elevation	Top of Embankment (Overtopping)	Outlet Conduit Diameter	Storage Volume to Emergency Spillway Crest	Storage Volume to Top of Embankment
	feet	feet	feet	inches	acre-feet	acre-feet
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Interim	1855.75	1879.5	1881.0	54	53.2	61.5
Ultimate	1855.75	1879.5	1881.0	54	203.2	224.1

TABLE 5
Summary of Detention Basin Operations (Model designation is shown in parenthesis)

	Peak Inflow, in cfs			Max. Water Surface Elev.			Peak Outflow, in cfs		
	100-yr, 6-hr	50-yr, 24-hr	100-yr, 24-hr	100-yr, 6-hr	50-yr, 24-hr	100-yr, 24-hr	100-yr, 6-hr	50-yr, 24-hr	100-yr, 24-hr
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Deer Valley Phase 1	1,058 (I-1)	---	1,337 (I-5)	1,876.0 (I-2)	---	1,879.0 (I-5)	246 (I-1)	---	253 (I-5)
Ultimate Condition Deer Valley	2,966 (E-1)	---	4,137 (E-5)	1,878.0 (E-2)	---	1,880.6 (E-5)	251 (E-1)	---	899 (E-5)
Interim Condition Pima Freeway East	4,426 (I-1)	4,432 (I-3)	5,564 (I-5)	1,611.1 (I-2)	1,611.9 (I-4)	1,612.9 (I-5)	2,008 (I-1)	2,033 (I-3)	4,060 (I-5)
Ultimate Condition Pima Freeway East	4,381 (E-1)	4,444 (E-3)	5,508 (E-5)	1,611.0 (E-2)	1,611.4 (E-4)	1,612.8 (E-5)	1,976 (E-1)	2,006 (E-3)	3,460 (E-5)

APPENDIX A

SUBBASIN INPUT PARAMETER SUMMARY TABLE

Table A-1

Subbasin input parameters for Pima Road Three Basins
Existing build-out conditions (interim)

Subbasin	Drainage	Rainfall Losses		Overland Flow Element				Collector Channel Element							Main Channel Element					
ID	Area sq. mi.	Curve No.	RTIMP %	Length feet	Slope ft/ft	n	% Contributing	Length feet	Slope ft/ft	n	Contrib. Area sm	Shape	Bottom Width	Side Slopes	Length feet	Slope ft/ft	n	Shape	Bottom Width	Side Slopes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
S51.1	1.1300	73.9	12	300	0.037	0.13	100	1800	0.038	0.045	0.0161	TRAP	0	12	14400	0.032	0.040	TRAP	40	15
*** BEGIN DC RANCH WATERSHED ***																				
52D4	0.0700	75	15	120	0.01	0.15	100	---	---	---	---	---	---	---	3100	0.035	0.045	TRAP	30	10
52D4B	0.0220	75	63	120	0.01	0.15	100	---	---	---	---	---	---	---	2200	0.033	0.045	TRAP	30	10
52D5A	0.0232	75	63	120	0.01	0.15	100	---	---	---	---	---	---	---	1300	0.032	0.045	TRAP	30	10
52C3	0.0060	75	65	100	0.02	0.1	100	---	---	---	---	---	---	---	800	0.033	0.045	TRAP	30	10
52C3B	0.0160	75	60	100	0.02	0.1	100	---	---	---	---	---	---	---	1400	0.034	0.045	TRAP	30	10
51C	0.0972	70	5	100	0.02	0.1	100	---	---	---	---	---	---	---	3900	0.0375	0.045	TRAP	30	10
52C1	0.0290	75	21	100	0.02	0.1	100	---	---	---	---	---	---	---	1350	0.021	0.045	TRAP	30	10
52C2A	0.0190	75	2	100	0.02	0.1	100	---	---	---	---	---	---	---	1500	0.033	0.045	TRAP	30	10
52C2B	0.0275	75	11	100	0.02	0.1	100	---	---	---	---	---	---	---	2000	0.03	0.045	TRAP	30	10
52C2C	0.0140	75	62	100	0.02	0.1	100	---	---	---	---	---	---	---	1500	0.04	0.045	TRAP	30	10
52C4	0.0170	75	60	100	0.02	0.1	100	---	---	---	---	---	---	---	1550	0.03	0.045	TRAP	30	10
52C13	0.0230	75	31	100	0.02	0.1	100	---	---	---	---	---	---	---	950	0.04	0.045	TRAP	30	10
52C15	0.0460	75	64	100	0.02	0.1	100	---	---	---	---	---	---	---	2050	0.036	0.045	TRAP	30	10
52C14A	0.0410	75	68	100	0.02	0.1	100	---	---	---	---	---	---	---	2050	0.031	0.045	TRAP	30	10
52C5	0.0160	75	27	100	0.02	0.1	100	---	---	---	---	---	---	---	1200	0.03	0.045	TRAP	30	10
52C6	0.0360	75	31	100	0.02	0.1	100	---	---	---	---	---	---	---	3100	0.035	0.045	TRAP	30	10
51B	0.5711	70	5	100	0.02	0.1	100	---	---	---	---	---	---	---	8900	0.03	0.045	TRAP	50	25
52C7	0.0060	75	27	100	0.02	0.1	100	---	---	---	---	---	---	---	550	0.04	0.045	TRAP	30	10
52C8	0.0080	75	27	100	0.02	0.1	100	---	---	---	---	---	---	---	750	0.034	0.045	TRAP	30	10
52C9	0.0690	75	32	100	0.02	0.1	100	---	---	---	---	---	---	---	3150	0.036	0.045	TRAP	30	10
52C10	0.0140	75	8	100	0.02	0.1	100	---	---	---	---	---	---	---	800	0.032	0.045	TRAP	30	10
52C11	0.0425	75	27	100	0.02	0.1	100	---	---	---	---	---	---	---	2800	0.031	0.045	TRAP	30	10
52C12	0.0230	75	85	100	0.02	0.1	100	---	---	---	---	---	---	---	900	0.03	0.045	TRAP	30	10
52C14B	0.0210	75	60	100	0.02	0.1	100	---	---	---	---	---	---	---	1250	0.029	0.045	TRAP	30	10
52B1	0.0030	75	27	100	0.02	0.1	100	---	---	---	---	---	---	---	600	0.039	0.045	TRAP	30	10
52B2	0.0320	75	17	100	0.02	0.1	100	---	---	---	---	---	---	---	2350	0.037	0.045	TRAP	30	10
52B3	0.0620	75	32	100	0.02	0.1	100	---	---	---	---	---	---	---	3450	0.03	0.045	TRAP	30	10
52B4	0.0260	75	62	100	0.02	0.1	100	---	---	---	---	---	---	---	1700	0.024	0.045	TRAP	30	10
52B5	0.0210	75	57	100	0.02	0.1	100	---	---	---	---	---	---	---	1400	0.03	0.045	TRAP	30	10
52B6	0.0960	75	14	100	0.02	0.1	100	---	---	---	---	---	---	---	3200	0.033	0.045	TRAP	30	10
52B7	0.0800	75	78	100	0.02	0.1	100	---	---	---	---	---	---	---	2750	0.028	0.045	TRAP	30	10
52A2	0.0650	75	89	100	0.02	0.1	100	---	---	---	---	---	---	---	2900	0.023	0.045	TRAP	30	10
52A1	0.1300	75	32	100	0.02	0.1	100	---	---	---	---	---	---	---	3400	0.033	0.045	TRAP	30	10
*** END DC RANCH WATERSHED ***																				
*** BEGIN GRAYHAWK WATERSHED ***																				
1B	0.3573	73.5	15	300	0.02	0.13	100	1420	0.02	0.045	0.015	TRAP	5	10	7000	0.02	0.04	TRAP	10	5
SUB5N	0.029	77	18	100	0.013	0.15	100	1000	0.005	0.018	0.015	TRAP	50	20	500	0.015	0.025	TRAP	10	4
SUB6B	0.032	81	0	200	0.025	0.15	100	---	---	---	---	---	---	---	1300	0.015	0.025	TRAP	10	4
SUB1N	0.019	77	18	100	0.013	0.15	100	---	---	---	---	---	---	---	1470	0.0204	0.018	TRAP	50	20
SUB2NA	0.015	81	0	150	0.013	0.15	100	---	---	---	---	---	---	---	1050	0.0215	0.025	TRAP	20	6
SUB2NB	0.03	77	53	150	0.013	0.15	100	---	---	---	---	---	---	---	1200	0.015	0.025	TRAP	20	50
SUB6N	0.049	81	0	200	0.025	0.15	100	---	---	---	---	---	---	---	1300	0.015	0.025	TRAP	10	4
SUB3N	0.027	81	0	100	0.02	0.15	100	---	---	---	---	---	---	---	2800	0.0207	0.025	TRAP	10	4
SUB4N	0.032	77	18	100	0.015	0.15	100	---	---	---	---	---	---	---	1200	0.007	0.018	TRAP	50	20

Table A-1

Subbasin input parameters for Pima Road Three Basins
Existing build-out conditions (interim)

Subbasin ID	Drainage Area sq. mi.	Rainfall Losses Curve No.	Rainfall Losses RTIMP %	Overland Flow Element Length feet	Overland Flow Element Slope ft/ft	Overland Flow Element n	Overland Flow Element % Contributing	Collector Channel Element Length feet	Collector Channel Element Slope ft/ft	Collector Channel Element n	Collector Channel Element Contrib. Area sm	Collector Channel Element Shape	Collector Channel Element Bottom Width	Collector Channel Element Side Slopes	Main Channel Element Length feet	Main Channel Element Slope ft/ft	Main Channel Element n	Main Channel Element Shape	Main Channel Element Bottom Width	Main Channel Element Side Slopes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
SUB6A	0.013	83	68	100	0.015	0.12	100	---	---	---	---	---	---	---	800	0.01	0.025	TRAP	2	3
SUB3C	0.0104	77	68	100	0.025	0.02	100	---	---	---	---	---	---	---	600	0.015	0.035	TRAP	50	20
GC1018	0.044	81	0	200	0.025	0.15	100	---	---	---	---	---	---	---	1800	0.0233	0.025	TRAP	10	4
GC1-9	0.026	81	0	200	0.025	0.15	100	---	---	---	---	---	---	---	2110	0.022	0.025	TRAP	10	4
SUB3S	0.0102	77	53	100	0.01	0.15	100	---	---	---	---	---	---	---	930	0.016	0.025	TRAP	50	20
SUB4S	0.0273	77	53	100	0.01	0.15	100	---	---	---	---	---	---	---	1780	0.018	0.015	TRAP	50	20
GC2-8	0.014	81	0	200	0.025	0.15	100	---	---	---	---	---	---	---	980	0.016	0.025	TRAP	10	4
SUB3D3	0.014	81	0	50	0.015	0.10	100	---	---	---	---	---	---	---	2450	0.016	0.025	TRAP	5	4
GC7	0.0134	81	0	200	0.025	0.15	100	---	---	---	---	---	---	---	1380	0.02	0.025	TRAP	10	4
SUB3D1	0.0088	77	34	SCS dimensionless hydrograph with a lag time of 0.06 hrs.																
SUB3B1	0.0137	77	47	SCS dimensionless hydrograph with a lag time of 0.06 hrs.																
SUB3F	0.0344	77	68	100	0.025	0.15	100	---	---	---	---	---	---	---	1000	0.015	0.025	TRAP	100	20
SUB3B2	0.0246	77	40	SCS dimensionless hydrograph with a lag time of 0.10 hrs.																
SUB3E1	0.0246	77	40	SCS dimensionless hydrograph with a lag time of 0.10 hrs.																
SUB3D2	0.0220	77	35	SCS dimensionless hydrograph with a lag time of 0.08 hrs.																
SUB3E2	0.0120	77	35	SCS dimensionless hydrograph with a lag time of 0.06 hrs.																
PC3*	0.0434	77	10	100	0.015	0.15	100	---	---	---	---	---	---	---	2200	0.01	0.03	TRAP	30	4
SUB3E3	0.0200	77	32	SCS dimensionless hydrograph with a lag time of 0.06 hrs.																
PC4*	0.0217	77	0	100	0.015	0.15	100	---	---	---	---	---	---	---	1100	0.01	0.03	TRAP	30	4
1A1	0.7465	70	0	300	0.02	0.13	100	1420	0.032	0.045	0.0061	TRAP	0	13	10800	0.033	0.045	TRAP	10	9
1A2	0.6108	74.5	25	150	0.01	0.10	100	1000	0.02	0.025	0.028	TRAP	0	20	5000	0.025	0.035	TRAP	50	10
SUB13N	0.0370	77	24	100	0.015	0.15	100	---	---	---	---	---	---	---	2400	0.007	0.018	TRAP	50	20
SUB14N	0.0490	81	0	300	0.025	0.15	100	---	---	---	---	---	---	---	2300	0.01	0.025	TRAP	10	4
SUB20N	0.0240	77	24	200	0.01	0.15	100	---	---	---	---	---	---	---	1400	0.02	0.018	TRAP	50	20
SUB19N	0.0380	77	31	150	0.01	0.15	100	---	---	---	---	---	---	---	1800	0.015	0.018	TRAP	50	20
UB18NC	0.0210	77	42	100	0.01	0.15	100	---	---	---	---	---	---	---	1550	0.02	0.018	TRAP	50	20
UB18NA	0.0220	77	42	100	0.01	0.15	100	---	---	---	---	---	---	---	1450	0.02	0.018	TRAP	50	20
UB18NB	0.0096	77	42	100	0.01	0.15	100	---	---	---	---	---	---	---	800	0.02	0.018	TRAP	50	20
PC1	0.0620	77	10	500	0.015	0.15	100	---	---	---	---	---	---	---	2700	0.01	0.03	TRAP	30	4
UB16NA	0.0139	77	42	100	0.015	0.15	100	---	---	---	---	---	---	---	1500	0.015	0.022	TRAP	50	20
UB16NB	0.0156	77	42	100	0.015	0.15	100	---	---	---	---	---	---	---	1500	0.015	0.022	TRAP	50	20
SUB7N	0.0310	77	18	100	0.015	0.15	100	---	---	---	---	---	---	---	1900	0.01	0.018	TRAP	50	20
SUB8NA	0.0046	81	0	100	0.03	0.15	100	---	---	---	---	---	---	---	450	0.03	0.025	TRAP	20	6
SUB8NB	0.0142	81	0	100	0.03	0.15	100	---	---	---	---	---	---	---	1150	0.025	0.025	TRAP	20	6
SUB8NC	0.0182	81	0	100	0.03	0.15	100	---	---	---	---	---	---	---	900	0.03	0.025	TRAP	20	6
SUB9N	0.0550	77	28	100	0.008	0.15	100	---	---	---	---	---	---	---	1700	0.01	0.018	TRAP	50	20
SUB10B	0.0280	77	42	100	0.015	0.15	100	350	0.008	0.018	0	TRAP	50	20	600	0.008	0.025	TRAP	10	4
UB11NA	0.0076	81	0	100	0.025	0.15	100	---	---	---	---	---	---	---	500	0.03	0.025	TRAP	30	6
UB11NB	0.0078	81	0	100	0.04	0.15	100	---	---	---	---	---	---	---	700	0.025	0.025	TRAP	30	6
UB11NC	0.0069	81	0	100	0.03	0.15	100	---	---	---	---	---	---	---	650	0.028	0.025	TRAP	20	5
SUB10A	0.0300	77	42	100	0.015	0.15	100	350	0.008	0.018	0	TRAP	50	20	800	0.008	0.025	TRAP	10	4
UB12NA	0.0153	81	0	150	0.025	0.15	100	---	---	---	---	---	---	---	650	0.017	0.025	TRAP	30	6
UB12NB	0.0157	81	0	150	0.025	0.15	100	---	---	---	---	---	---	---	650	0.017	0.025	TRAP	30	6
UB16NC	0.0337	77	42	100	0.015	0.15	100	---	---	---	---	---	---	---	1600	0.015	0.022	TRAP	50	20
PC2	0.0540	77	10	100	0.015	0.15	100	---	---	---	---	---	---	---	2700	0.01	0.03	TRAP	50	4
UB17NA	0.0098	81	0	150	0.025	0.05	100	---	---	---	---	---	---	---	960	0.0292	0.025	TRAP	30	50

Table A-1

Subbasin input parameters for Pima Road Three Basins
Existing build-out conditions (interim)

Subbasin ID	Drainage Area sq. mi.	Rainfall Losses Curve No.	Rainfall Losses RTIMP %	Overland Flow Element Length feet	Overland Flow Element Slope ft/ft	Overland Flow Element n	Overland Flow Element % Contributing	Collector Channel Element Length feet	Collector Channel Element Slope ft/ft	Collector Channel Element n	Collector Channel Element Contrib. Area sm	Collector Channel Element Shape	Collector Channel Element Bottom Width	Collector Channel Element Side Slopes	Main Channel Element Length feet	Main Channel Element Slope ft/ft	Main Channel Element n	Main Channel Element Shape	Main Channel Element Bottom Width	Main Channel Element Side Slopes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
UB17NB	0.0111	81	0	150	0.025	0.05	100	---	---	---	---	---	---	---	1200	0.0217	0.025	TRAP	30	50
SUB17A	0.0079	77	34	75	0.03	0.05	100	---	---	---	---	---	---	---	1500	0.02	0.025	TRAP	8	4
UB17NC	0.0056	77	12	75	0.03	0.05	100	---	---	---	---	---	---	---	910	0.0187	0.025	TRAP	8	4
SUB15N	0.0391	77	68	100	0.01	0.15	100	400	0.008	0.018	0	TRAP	50	20	1700	0.015	0.025	TRAP	10	4
SUB1-2	0.0558	77	68	200	0.01	0.15	100	---	---	---	---	---	---	---	1370	0.027	0.015	TRAP	50	20
SUB5S	0.0263	77	31	100	0.01	0.15	100	---	---	---	---	---	---	---	1280	0.007	0.015	TRAP	50	20
GC1216	0.0365	81	0	200	0.025	0.15	100	---	---	---	---	---	---	---	2200	0.024	0.025	TRAP	10	4
GC1415	0.0450	81	0	200	0.025	0.15	100	---	---	---	---	---	---	---	1300	0.022	0.025	TRAP	10	4
SUB6S	0.0210	77	42	100	0.01	0.15	100	---	---	---	---	---	---	---	2150	0.013	0.025	TRAP	50	20
SUB7S	0.0270	77	42	100	0.01	0.15	100	---	---	---	---	---	---	---	2080	0.023	0.025	TRAP	50	20
SUB8S	0.0256	77	42	100	0.01	0.15	100	---	---	---	---	---	---	---	1600	0.015	0.025	TRAP	50	20
GC36	0.0406	81	0	200	0.025	0.15	100	---	---	---	---	---	---	---	2350	0.015	0.035	TRAP	10	4
SUB9S	0.0210	77	53	100	0.01	0.15	100	---	---	---	---	---	---	---	1100	0.013	0.025	TRAP	50	20
SUB7A	0.0092	77	42	100	0.025	0.15	100	---	---	---	---	---	---	---	950	0.015	0.025	TRAP	50	20
SUB10S	0.0248	77	53	100	0.01	0.15	100	---	---	---	---	---	---	---	1150	0.02	0.025	TRAP	50	20
SUB11S	0.0234	77	68	100	0.015	0.018	100	---	---	---	---	---	---	---	1050	0.015	0.025	TRAP	100	20
GC45	0.0127	81	0	200	0.015	0.025	100	---	---	---	---	---	---	---	550	0.015	0.035	TRAP	10	4
PC5*	0.0370	77	0	100	0.015	0.15	100	---	---	---	---	---	---	---	1900	0.01	0.03	TRAP	30	4
*** END GRAYHAWK WATERSHED ***																				
SCN5D	0.0499	74	0	100	0.025	0.13	100	---	---	---	---	---	---	---	3100	0.017	0.04	TRAP	0	15
S53A	0.1794	74	11	300	0.022	0.13	100	1475	0.026	0.045	0.0111	TRAP	3	5	1750	0.021	0.040	TRAP	25	5
S53A1	0.3376	74	12	300	0.022	0.13	70	1250	0.023	0.045	0.0087	TRAP	4	5	5050	0.017	0.040	TRAP	35	5
		74	30	150	0.027	0.13	30													
SCN6B	0.0520	74	80	150	0.010	0.15	70	720	0.020	0.030	0.0084	TRAP	5	10	440	0.009	0.035	TRAP	6	3
		74	0	100	0.025	0.13	30	700	0.010	0.040	0.0050	TRAP	0	10						
SCN6D	0.0369	74	3	100	0.025	0.13	100	---	---	---	---	---	---	---	1000	0.017	0.040	TRAP	0	15
SCN6C	0.1388	74	80	150	0.010	0.15	50	1500	0.01	0.03	0.0123	TRAP	5	10	700	0.017	0.040	TRAP	0	15
		74	0	100	0.025	0.13	50													
SCN5C	0.1904	74	0	150	0.02	0.13	100	---	---	---	---	---	---	---	3700	0.0176	0.04	TRAP	0	15
SCN6E	0.0427	74	5	50	0.01	0.13	100	---	---	---	---	---	---	---	3200	0.02	0.025	TRAP	0	50
SCNA1	0.1168	77	0	300	0.015	0.13	100	---	---	---	---	---	---	---	1900	0.015	0.04	TRAP	0	20
*** BEGIN GRAYHAWK WATERSHED ***																				
1G	0.0590	74	53	SCS dimensionless hydrograph with a lag time of 0.06 hrs.																
1I	0.0620	74	52	SCS dimensionless hydrograph with a lag time of 0.07 hrs.																
1J	0.0175	74	64	SCS dimensionless hydrograph with a lag time of 0.06 hrs.																
1L	0.0484	74	64	SCS dimensionless hydrograph with a lag time of 0.217 hrs.																
*** END GRAYHAWK WATERSHED ***																				
SCNA2	0.2755	77	0	250	0.0167	0.13	100	---	---	---	---	---	---	---	3900	0.0167	0.04	TRAP	0	15
SCNA3	0.1230	77	0	300	0.0179	0.13	100	---	---	---	---	---	---	---	5300	0.0179	0.04	TRAP	0	20
SCNA4	0.1582	77	0	200	0.015	0.13	100	---	---	---	---	---	---	---	4500	0.0181	0.04	TRAP	0	15
SCNA5	0.0678	77	5	50	0.01	0.13	100	---	---	---	---	---	---	---	5000	0.002	0.025	TRAP	0	50

note *: Subbasins added by GVSCE in order to bring flow previously released to natural channels together, routing the hydrographs down to the Pima Freeway East-Basin

APPENDIX B

PHASE I DEER VALLEY DETENTION BASIN
STAGE VS. STORAGE CURVE

Table B-1

Stage-storage-discharge rating table for Deer Valley Phase 1-Basin for the 6-hour storm

Stage feet	Total Available Storage acre-feet	Discharge No Clogging cfs	Discharge 50% Clogging cfs
1855.75	0.00	0	0
1856.0	0.54	3	3
1857.0	0.96	15	15
1858.0	1.18	28	28
1859.0	1.68	51	51
1860.0	2.09	81	81
1861.0	2.60	113	112
1862.0	3.72	143	141
1863.0	4.95	165	163
1864.0	6.30	183	181
1865.0	7.78	193	192
1866.0	9.80	204	202
1867.0	11.96	212	211
1868.0	14.25	216	215
1869.0	16.67	220	219
1870.0	19.23	224	223
1871.0	21.93	228	227
1872.0	24.78	232	231
1873.0	27.78	236	235
1874.0	30.93	240	240
1875.0	34.23	243	242
1876.0	37.69	246	245
1877.0	41.30	248	248
1878.0	45.08	251	250
1879.0	49.03	253	253
1880.0	57.33	256	256
1881.0	61.54	259	258

Table B-2

Stage-Storage rating table for the Deer Valley Phase 1-Basin

Stage feet	Storage acre-feet	Sediment Dead Storage acre-feet	Total Available Storage acre-feet
1855.0	0.00	0.00	0.00
1856.0	0.54	0.00	0.54
1857.0	1.16	0.20	0.96
1858.0	1.88	0.70	1.18
1859.0	2.68	1.00	1.68
1860.0	3.59	1.50	2.09
1861.0	4.60	2.00	2.60
1862.0	5.72	2.00	3.72
1863.0	6.95	2.00	4.95
1864.0	8.30	2.00	6.30
1865.0	9.78	2.00	7.78
1866.0	11.80	2.00	9.80
1867.0	13.96	2.00	11.96
1868.0	16.25	2.00	14.25
1869.0	18.67	2.00	16.67
1870.0	21.23	2.00	19.23
1871.0	23.93	2.00	21.93
1872.0	26.78	2.00	24.78
1873.0	29.78	2.00	27.78
1874.0	32.93	2.00	30.93
1875.0	36.23	2.00	34.23
1876.0	39.69	2.00	37.69
1877.0	43.30	2.00	41.30
1878.0	47.08	2.00	45.08
1879.0	51.03	2.00	49.03
1880.0	59.33	2.00	57.33
1881.0	63.54	2.00	61.54

Table B-3

Deer Valley Phase 1-Basin trashrack headloss for 50% clogging

Discharge cfs	Trashrack Area[a] Gross[b] sq. feet	Trashrack Area[a] Net[c] sq. feet	Headloss Coefficient	Velocity Through Bars[d] fps	Headloss feet
0	---	---	---	---	0
30	---	---	---	---	0
60	---	---	---	---	0
90	---	---	---	---	0
120	149.8	69.95	1.02	1.72	0.05
150	149.8	69.95	1.02	2.14	0.07
180	149.8	69.95	1.02	2.57	0.11
210	149.8	69.95	1.02	3.00	0.14
240	149.8	69.95	1.02	3.43	0.19
270	149.8	69.95	1.02	3.86	0.24

Notes
a: Only fully submereged conditions are considered.
b: Assumes the trashrack is mounted on a ADOT standard headwall as shown on figure.
c: APWA trashrack, bar area is 9.85 sq. feet, see figure.
d: Velocity through the net area.

Table B-4

Controlling stage-discharge rating table for the 6-hour storm
for a 54" conduit with a square edge headwall

Discharge cfs	Inlet Control Stage feet	Backwater Analysis Stage feet	Controlling Headwater Elevation	
			No Clogging feet	50% Clogging feet
0	1855.75	1855.00	1855.75	1855.75
30	1857.85	1858.18	1858.18	1858.18
60	1859.02	1859.33	1859.33	1859.33
90	1859.98	1860.30	1860.30	1860.30
120	1861.00	1861.23	1861.23	1861.28
150	1862.23	1862.17	1862.23	1862.30
180	1863.76	1863.18	1863.76	1863.87
210	1865.60	1866.57	1866.57	1866.71
240	1867.75	1873.93	1873.93	1874.12
270	1870.17	1885.21	1885.21	1885.45

Table B-5

Stage-storage-discharge rating table for Deer Valley Phase 1-Basin for the 24-hour storm

Stage feet	Total Available Storage acre-feet	Discharge 50% Clogging cfs	Weir cfs	Total cfs
1855.75	0.00	0	0	0
1856.0	0.54	3	0	3
1857.0	0.96	15	0	15
1858.0	1.18	28	0	28
1859.0	1.68	51	0	51
1860.0	2.09	81	0	81
1861.0	2.60	112	0	112
1862.0	3.72	141	0	141
1863.0	4.95	163	0	163
1864.0	6.30	181	0	181
1865.0	7.78	192	0	192
1866.0	9.80	202	0	202
1867.0	11.96	211	0	211
1868.0	14.25	215	0	215
1869.0	16.67	219	0	219
1870.0	19.23	223	0	223
1871.0	21.93	227	0	227
1872.0	24.78	231	0	231
1873.0	27.78	235	0	235
1874.0	30.93	240	0	240
1875.0	34.23	242	0	242
1876.0	37.69	245	0	245
1877.0	41.30	248	0	248
1878.0	45.08	250	0	250
1879.0	49.03	253	0	253
1879.5	53.18	254.3	0	254
1879.6	54.01	254.5	16	271
1879.8	55.67	255.0	84	339
1880.0	57.33	255.6	183	439
1880.2	58.17	256.1	307	563
1880.4	59.01	256.6	453	710
1880.5	59.44	256.9	534	791
1880.6	59.86	257.2	620	877
1880.7	60.28	257.4	711	968
1880.8	60.70	257.7	807	1065
1880.9	61.12	258.0	907	1165
1881.0	61.54	258.2	1012	1270

CURRENT DATE: 02-11-1999
CURRENT TIME: 13:32:02

FILE DATE: 02-11-1999
FILE NAME: DV-54

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.0

CULV NO.	SITE DATA: INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	1855.75	1847.72	342.17	1 RCP	4.50	4.50	.015	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: DV-54 DATE: 02-11-1999

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1855.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1857.85	30.0	30.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1859.02	60.0	60.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1859.98	90.0	90.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1861.00	120.0	120.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1862.23	150.0	150.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1863.76	180.0	180.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1865.60	210.0	210.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1867.75	240.0	240.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1870.17	270.0	270.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1872.85	300.0	300.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1881.00	370.9	370.9	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: DV-54 DATE: 02-11-1999

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
1855.75	0.000	0.00	0.00	0.00
1857.85	0.000	30.00	0.00	0.00
1859.02	0.000	60.00	0.00	0.00
1859.98	0.000	90.00	0.00	0.00
1861.00	0.000	120.00	0.00	0.00
1862.23	0.000	150.00	0.00	0.00
1863.76	0.000	180.00	0.00	0.00
1865.60	0.000	210.00	0.00	0.00
1867.75	0.000	240.00	0.00	0.00
1870.17	0.000	270.00	0.00	0.00
1872.85	0.000	300.00	0.00	0.00

<1> TOLERANCE (ft) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 02-11-1999
CURRENT TIME: 13:32:02

FILE DATE: 02-11-1999
FILE NAME: DV-54

PERFORMANCE CURVE FOR CULVERT 1 - 1(4.50 (ft) BY 4.50 (ft)) RCP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	1855.75	0.00	-8.03	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
30.00	1857.85	2.10	-4.81	1-S2n	1.01	1.55	0.95	0.00	12.13	0.00
60.00	1859.02	3.27	-3.90	1-S2n	1.46	2.25	1.35	0.00	14.95	0.00
90.00	1859.98	4.23	-2.70	1-S2n	1.82	2.78	1.83	0.00	14.87	0.00
120.00	1861.00	5.25	-1.16	1-S2n	2.14	3.22	2.15	0.00	15.95	0.00
150.00	1862.23	6.48	0.72	1-S2n	2.44	3.59	2.39	0.00	17.47	0.00
180.00	1863.76	8.01	2.93	1-S2n	2.74	3.86	2.78	0.00	17.49	0.00
210.00	1865.60	9.85	5.51	5-S2n	3.05	4.12	3.09	0.00	18.06	0.00
240.00	1867.75	12.00	8.46	5-S2n	3.41	4.38	3.44	0.00	18.43	0.00
270.00	1870.17	14.42	11.72	6-FFc	3.87	4.50	4.50	0.00	16.98	0.00
300.00	1872.85	17.10	15.30	6-FFc	4.50	4.50	4.50	0.00	18.86	0.00

El. inlet face invert 1855.75 ft El. outlet invert 1847.72 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	1855.75 ft
OUTLET STATION	342.08 ft
OUTLET ELEVATION	1847.72 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0235
CULVERT LENGTH ALONG SLOPE	342.17 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	4.50 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.015
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQUARE EDGE WITH HEADWALL
INLET DEPRESSION	NONE

CURRENT DATE: 02-11-1999
CURRENT TIME: 13:32:02

FILE DATE: 02-11-1999
FILE NAME: DV-54

TAILWATER

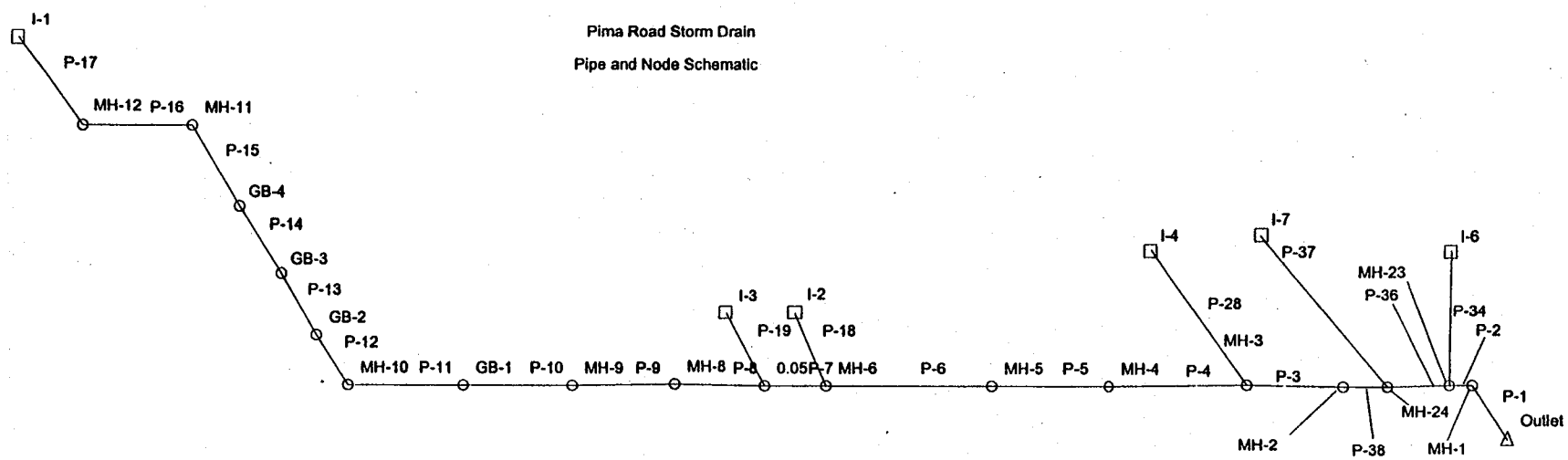
CONSTANT WATER SURFACE ELEVATION
1847.72

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE	GRAVEL
EMBANKMENT TOP WIDTH	130.00 ft
CREST LENGTH	100.00 ft
OVERTOPPING CREST ELEVATION	1881.00 ft

Pima Road Storm Drain

Pipe and Node Schematic



Stantec Consulting, Inc.
Project No. 28900082

Node Report

Node	Total Upstream Added (cfs)	Discharge (cfs)	Ground Elevation (ft)	Rim Elevation (ft)	HGL In (ft)	HGL Out (ft)
I-1	0.00	251.00	1,890.00	1,890.00	1,876.87	1,871.06
MH-12	0.00	251.00	1,880.00	1,880.00	1,863.60	1,862.13
MH-11	0.00	251.00	1,880.00	1,880.00	1,858.24	1,856.89
GB-4	0.00	251.00	1,880.00	1,880.00	1,853.72	1,853.72
GB-3	0.00	251.00	1,858.00	1,858.00	1,852.43	1,852.43
GB-2	0.00	251.00	1,858.00	1,858.00	1,851.88	1,851.88
MH-10	0.00	251.00	1,858.11	1,858.11	1,851.23	1,849.76
GB-1	0.00	251.00	1,849.00	1,849.00	1,842.68	1,842.68
MH-9	0.00	251.00	1,841.40	1,841.40	1,834.79	1,834.60
MH-8	0.00	251.00	1,825.23	1,825.23	1,820.28	1,819.44
I-3	0.00	2.00	1,815.00	1,815.00	1,805.77	1,805.77
I-2	0.00	2.00	1,815.00	1,815.00	1,805.55	1,805.55
0.05	0.00	253.00	1,814.21	1,814.21	1,805.77	1,805.69
MH-6	0.00	255.00	1,813.85	1,813.85	1,805.55	1,803.02
MH-5	0.00	255.00	1,804.45	1,804.45	1,792.97	1,792.85
I-4	0.00	2.00	1,777.20	1,777.20	1,771.78	1,771.58
MH-4	0.00	255.00	1,793.47	1,793.47	1,786.07	1,785.95
MH-3	0.00	257.00	1,777.92	1,777.92	1,769.20	1,769.12
MH-2	0.00	257.00	1,763.34	1,763.34	1,751.11	1,751.03
I-7	0.00	2.00	1,761.72	1,761.72	1,757.36	1,757.14
MH-24	0.00	259.00	1,761.70	1,761.70	1,748.18	1,748.09
I-6	0.00	2.00	1,753.45	1,753.45	1,749.12	1,748.89
MH-23	0.00	261.00	1,752.35	1,752.35	1,739.90	1,739.82
MH-1	0.00	261.00	1,748.90	1,748.90	1,735.44	1,735.11
Outlet	0.00	N/A	1,745.00	1,745.00	1,735.00	1,735.00

Pipe Report

Pipe	Upstream Node	Downstream Node	Discharge (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Roughness	Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Upstream HGL (ft)
P-17	I-1	MH-12	251.00	344.00	0.017151	54 inch	0.015	223.19	1,855.75	1,849.85	1,890.00	1,880.00	29.75	25.65	1,871.06
P-16	MH-12	MH-11	251.00	179.00	0.017151	54 inch	0.015	223.18	1,849.85	1,846.78	1,880.00	1,880.00	25.65	28.72	1,862.13
P-15	MH-11	GB-4	251.00	146.00	0.017123	54 inch	0.015	223.00	1,846.78	1,844.28	1,880.00	1,880.00	28.72	31.22	1,856.89
P-14	GB-4	GB-3	251.00	59.74	0.003850	54 inch	0.015	105.74	1,844.28	1,844.05	1,880.00	1,858.00	31.22	9.45	1,853.72
P-13	GB-3	GB-2	251.00	25.26	0.160333	54 inch	0.015	682.39	1,844.05	1,840.00	1,858.00	1,858.00	9.45	13.50	1,852.43
P-12	GB-2	MH-10	251.00	30.00	0.004667	54 inch	0.015	116.42	1,840.00	1,839.86	1,858.00	1,858.11	13.50	13.75	1,851.88
P-11	MH-10	GB-1	251.00	320.00	0.004562	54 inch	0.015	115.11	1,839.86	1,838.40	1,858.11	1,849.00	13.75	6.10	1,849.76
P-10	GB-1	MH-9	251.00	340.00	0.024706	54 inch	0.015	267.87	1,838.40	1,830.00	1,849.00	1,841.40	6.10	6.90	1,842.68
P-9	MH-9	MH-8	251.00	660.00	0.022712	54 inch	0.015	256.83	1,830.00	1,815.01	1,841.40	1,825.23	6.90	5.72	1,834.60
P-8	MH-8	0.05	251.00	540.76	0.029643	60 inch	0.015	388.60	1,815.01	1,798.98	1,825.23	1,814.21	5.22	10.23	1,819.44
P-19	I-3	0.05	2.00	98.00	0.010000	60 inch	0.015	225.70	1,799.96	1,798.98	1,815.00	1,814.21	10.04	10.23	1,805.77
P-18	I-2	MH-6	2.00	108.00	0.010000	60 inch	0.015	225.70	1,799.65	1,798.57	1,815.00	1,813.85	10.35	10.28	1,805.55
P-7	0.05	MH-6	253.00	18.50	0.022162	66 inch	0.015	433.24	1,798.98	1,798.57	1,814.21	1,813.85	9.73	9.78	1,805.69
P-6	MH-6	MH-5	255.00	460.76	0.022072	66 inch	0.015	432.36	1,798.57	1,788.40	1,813.85	1,804.45	9.78	10.55	1,803.02
P-5	MH-5	MH-4	255.00	450.00	0.015333	66 inch	0.015	360.36	1,788.40	1,781.50	1,804.45	1,793.47	10.55	6.47	1,792.85
P-28	I-4	MH-3	2.00	55.00	0.112727	60 inch	0.013	874.39	1,771.20	1,765.00	1,777.20	1,777.92	1.00	7.92	1,771.58
P-4	MH-4	MH-3	255.00	660.00	0.025000	66 inch	0.013	530.93	1,781.50	1,765.00	1,793.47	1,777.92	6.47	7.42	1,785.95
P-3	MH-3	MH-2	257.00	660.00	0.027409	90 inch	0.015	1,101.70	1,765.00	1,746.91	1,777.92	1,763.34	5.42	8.93	1,769.12
P-38	MH-2	MH-24	257.00	107.50	0.027442	90 inch	0.013	1,271.96	1,746.91	1,743.96	1,763.34	1,761.70	8.93	10.24	1,751.03
P-37	I-7	MH-24	2.00	82.00	0.155610	42 inch	0.013	396.86	1,756.72	1,743.96	1,761.72	1,761.70	1.50	14.24	1,757.14
P-36	MH-24	MH-23	259.00	302.50	0.027405	90 inch	0.013	1,271.10	1,743.96	1,735.67	1,761.70	1,752.35	10.24	9.18	1,748.09
P-34	I-6	MH-23	2.00	61.00	0.209508	36 inch	0.013	305.28	1,748.45	1,735.67	1,753.45	1,752.35	2.00	13.68	1,748.89
P-2	MH-23	MH-1	261.00	351.00	0.027407	90 inch	0.013	1,271.16	1,735.67	1,726.05	1,752.35	1,748.90	9.18	15.35	1,739.82
P-1	MH-1	Outlet	261.00	74.65	0.027461	90 inch	0.015	1,102.76	1,726.05	1,724.00	1,748.90	1,745.00	15.35	13.50	1,735.11

```
----------------- Beginning Calculation Cycle -------------------
Discharge: 2.00 cfs  at node I-6
Discharge: 30.00 cfs  at node I-1
Discharge: 30.00 cfs  at node MH-12
Discharge: 30.00 cfs  at node MH-11
Discharge: 30.00 cfs  at node GB-4
Discharge: 30.00 cfs  at node GB-3
Discharge: 30.00 cfs  at node GB-2
Discharge: 30.00 cfs  at node MH-10
Discharge: 30.00 cfs  at node GB-1
Discharge: 30.00 cfs  at node MH-9
Discharge: 30.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 32.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 34.00 cfs  at node MH-6
Discharge: 34.00 cfs  at node MH-5
Discharge: 34.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 36.00 cfs  at node MH-3
Discharge: 36.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 38.00 cfs  at node MH-24
Discharge: 40.00 cfs  at node MH-23
Discharge: 40.00 cfs  at node MH-1
Discharge: 40.00 cfs  at node Outlet
Beginning iteration 1
Discharge: 2.00 cfs  at node I-6
Discharge: 30.00 cfs  at node I-1
Discharge: 30.00 cfs  at node MH-12
Discharge: 30.00 cfs  at node MH-11
Discharge: 30.00 cfs  at node GB-4
Discharge: 30.00 cfs  at node GB-3
Discharge: 30.00 cfs  at node GB-2
Discharge: 30.00 cfs  at node MH-10
Discharge: 30.00 cfs  at node GB-1
Discharge: 30.00 cfs  at node MH-9
Discharge: 30.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 32.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 34.00 cfs  at node MH-6
Discharge: 34.00 cfs  at node MH-5
Discharge: 34.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 36.00 cfs  at node MH-3
Discharge: 36.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 38.00 cfs  at node MH-24
Discharge: 40.00 cfs  at node MH-23
Discharge: 40.00 cfs  at node MH-1
Discharge: 40.00 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Warning: No Duration data exists in IDF Table
Information: Outlet Known flow propagated from upstream junctions.
Information: P-1 Surcharged condition
Information: MH-1 Known flow propagated from upstream junctions.
Information: MH-23 Known flow propagated from upstream junctions.
Information: MH-24 Known flow propagated from upstream junctions.
Information: MH-2 Known flow propagated from upstream junctions.
Information: MH-3 Known flow propagated from upstream junctions.
Information: MH-4 Known flow propagated from upstream junctions.
Information: MH-5 Known flow propagated from upstream junctions.
Information: MH-6 Known flow propagated from upstream junctions.
Information: 0.05 Known flow propagated from upstream junctions.
```

Information: MH-8 Known flow propagated from upstream junctions.
Information: MH-9 Known flow propagated from upstream junctions.
Information: GB-1 Known flow propagated from upstream junctions.
Information: MH-10 Known flow propagated from upstream junctions.
Information: GB-2 Known flow propagated from upstream junctions.
Information: GB-3 Known flow propagated from upstream junctions.
Information: GB-4 Known flow propagated from upstream junctions.
Information: MH-11 Known flow propagated from upstream junctions.
Information: MH-12 Known flow propagated from upstream junctions.
---------- Calculations Complete ----------

** Analysis Options **
Friction method: Manning's Formula
Hydraulic Grade Convergence Test: 0.001000
Maximum Network Traversals: 5
Number of Flow Profile Steps: 5
Discharge Convergence Test: 0.001000
Maximum Design Passes: 3

---------- Network Quick View ----------

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-1	74.65	90 inch	40.00	1,735.00	1,735.00
P-3	660.00	90 inch	36.00	1,766.49	1,748.42
P-5	450.00	66 inch	34.00	1,789.98	1,783.11
P-16	179.00	54 inch	30.00	1,851.42	1,848.55
P-17	344.00	54 inch	30.00	1,857.32	1,851.64
P-6	460.76	66 inch	34.00	1,800.15	1,790.01
P-9	660.00	54 inch	30.00	1,831.57	1,816.69
P-8	540.76	60 inch	30.00	1,816.53	1,800.54
P-7	18.50	66 inch	32.00	1,800.51	1,800.75
P-19	98.00	60 inch	2.00	1,800.52	1,800.54
P-18	108.00	60 inch	2.00	1,800.75	1,800.75
P-12	30.00	54 inch	30.00	1,841.64	1,841.65
P-11	320.00	54 inch	30.00	1,841.43	1,839.97
P-10	340.00	54 inch	30.00	1,839.97	1,831.60
P-15	146.00	54 inch	30.00	1,848.35	1,845.92
P-14	59.74	54 inch	30.00	1,845.92	1,845.62
P-13	25.26	54 inch	30.00	1,845.62	1,841.64
P-4	660.00	66 inch	34.00	1,783.08	1,765.94
P-28	55.00	60 inch	2.00	1,771.58	1,766.51
P-2	351.00	90 inch	40.00	1,737.24	1,735.01

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-34	61.00	36 inch	2.00	1,748.89	1,737.27
P-38	107.50	90 inch	36.00	1,748.40	1,745.52
P-36	302.50	90 inch	38.00	1,745.49	1,737.27
P-37	82.00	42 inch	2.00	1,757.14	1,745.52

Label	Discharge	Elevations Ground	Elevations Upstream HGL	Elevations Downstream HGL
Outlet	40.00	1,745.00	1,735.00	1,735.00
MH-1	40.00	1,748.90	1,735.01	1,735.00
MH-2	36.00	1,763.34	1,748.42	1,748.40
MH-3	36.00	1,777.92	1,766.51	1,766.49
MH-4	34.00	1,793.47	1,783.11	1,783.08
MH-5	34.00	1,804.45	1,790.01	1,789.98
MH-6	34.00	1,813.85	1,800.75	1,800.15
0.05	32.00	1,814.21	1,800.54	1,800.51
MH-8	30.00	1,825.23	1,816.69	1,816.53
MH-9	30.00	1,841.40	1,831.60	1,831.57
MH-10	30.00	1,858.11	1,841.65	1,841.43

MH-11	30.00	1,880.00	1,848.55	1,848.35
MH-12	30.00	1,880.00	1,851.64	1,851.42
I-1	30.00	1,890.00	1,858.18	1,857.32
I-2	2.00	1,815.00	1,800.75	1,800.75
I-3	2.00	1,815.00	1,800.58	1,800.52
GB-2	30.00	1,858.00	1,841.64	1,841.64
GB-1	30.00	1,849.00	1,839.97	1,839.97
GB-4	30.00	1,880.00	1,845.92	1,845.92
GB-3	30.00	1,858.00	1,845.62	1,845.62

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-4	2.00	1,777.20	1,771.78	1,771.58
I-6	2.00	1,753.45	1,749.12	1,748.89
MH-23	40.00	1,752.35	1,737.27	1,737.24
I-7	2.00	1,761.72	1,757.36	1,757.14
MH-24	38.00	1,761.70	1,745.52	1,745.49

Elapsed: 0 minute(s) 2 second(s)

```
------------------ Beginning Calculation Cycle ------------------
Discharge: 2.00 cfs  at node I-6
Discharge: 60.00 cfs  at node I-1
Discharge: 60.00 cfs  at node MH-12
Discharge: 60.00 cfs  at node MH-11
Discharge: 60.00 cfs  at node GB-4
Discharge: 60.00 cfs  at node GB-3
Discharge: 60.00 cfs  at node GB-2
Discharge: 60.00 cfs  at node MH-10
Discharge: 60.00 cfs  at node GB-1
Discharge: 60.00 cfs  at node MH-9
Discharge: 60.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 62.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 64.00 cfs  at node MH-6
Discharge: 64.00 cfs  at node MH-5
Discharge: 64.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 66.00 cfs  at node MH-3
Discharge: 66.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 68.00 cfs  at node MH-24
Discharge: 70.00 cfs  at node MH-23
Discharge: 70.00 cfs  at node MH-1
Discharge: 70.00 cfs  at node Outlet
Beginning iteration 1
Discharge: 2.00 cfs  at node I-6
Discharge: 60.00 cfs  at node I-1
Discharge: 60.00 cfs  at node MH-12
Discharge: 60.00 cfs  at node MH-11
Discharge: 60.00 cfs  at node GB-4
Discharge: 60.00 cfs  at node GB-3
Discharge: 60.00 cfs  at node GB-2
Discharge: 60.00 cfs  at node MH-10
Discharge: 60.00 cfs  at node GB-1
Discharge: 60.00 cfs  at node MH-9
Discharge: 60.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 62.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 64.00 cfs  at node MH-6
Discharge: 64.00 cfs  at node MH-5
Discharge: 64.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 66.00 cfs  at node MH-3
Discharge: 66.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 68.00 cfs  at node MH-24
Discharge: 70.00 cfs  at node MH-23
Discharge: 70.00 cfs  at node MH-1
Discharge: 70.00 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Warning: No Duration data exists in IDF Table
Information: Outlet Known flow propagated from upstream junctions.
Information: P-1 Surcharged condition
Information: MH-1 Known flow propagated from upstream junctions.
Information: MH-23 Known flow propagated from upstream junctions.
Information: MH-24 Known flow propagated from upstream junctions.
Information: MH-2 Known flow propagated from upstream junctions.
Information: MH-3 Known flow propagated from upstream junctions.
Information: MH-4 Known flow propagated from upstream junctions.
Information: MH-5 Known flow propagated from upstream junctions.
Information: MH-6 Known flow propagated from upstream junctions.
Information: 0.05 Known flow propagated from upstream junctions.
```

Information: MH-8 Known flow propagated from upstream junctions.
Information: MH-9 Known flow propagated from upstream junctions.
Information: GB-1 Known flow propagated from upstream junctions.
Information: MH-10 Known flow propagated from upstream junctions.
Information: GB-2 Known flow propagated from upstream junctions.
Information: GB-3 Known flow propagated from upstream junctions.
Information: GB-4 Known flow propagated from upstream junctions.
Information: MH-11 Known flow propagated from upstream junctions.
Information: MH-12 Known flow propagated from upstream junctions.
---------- Calculations Complete ----------

** Analysis Options **
Friction method: Manning's Formula
Hydraulic Grade Convergence Test: 0.001000
Maximum Network Traversals: 5
Number of Flow Profile Steps: 5
Discharge Convergence Test: 0.001000
Maximum Design Passes: 3

---------- Network Quick View ----------

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-1	74.65	90 inch	70.00	1,735.01	1,735.00
P-3	660.00	90 inch	66.00	1,767.03	1,748.98
P-5	450.00	66 inch	64.00	1,790.59	1,783.73
P-16	179.00	54 inch	60.00	1,852.10	1,849.34
P-17	344.00	54 inch	60.00	1,858.00	1,852.44
P-6	460.76	66 inch	64.00	1,800.76	1,790.63
P-9	660.00	54 inch	60.00	1,832.25	1,817.43
P-8	540.76	60 inch	60.00	1,817.19	1,801.42
P-7	18.50	66 inch	62.00	1,801.39	1,801.63
P-19	98.00	60 inch	2.00	1,801.42	1,801.42
P-18	108.00	60 inch	2.00	1,801.63	1,801.63
P-12	30.00	54 inch	60.00	1,842.51	1,842.48
P-11	320.00	54 inch	60.00	1,842.17	1,840.65
P-10	340.00	54 inch	60.00	1,840.65	1,832.29
P-15	146.00	54 inch	60.00	1,849.03	1,846.69
P-14	59.74	54 inch	60.00	1,846.69	1,846.30
P-13	25.26	54 inch	60.00	1,846.30	1,842.51
P-4	660.00	66 inch	64.00	1,783.69	1,766.29
P-28	55.00	60 inch	2.00	1,771.58	1,767.07
P-2	351.00	90 inch	70.00	1,737.76	1,735.03

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-34	61.00	36 inch	2.00	1,748.89	1,737.80
P-38	107.50	90 inch	66.00	1,748.94	1,746.06
P-36	302.50	90 inch	68.00	1,746.02	1,737.80
P-37	82.00	42 inch	2.00	1,757.14	1,746.06

Label	Discharge	Elevations Ground	Elevations Upstream HGL	Elevations Downstream HGL
Outlet	70.00	1,745.00	1,735.00	1,735.00
MH-1	70.00	1,748.90	1,735.03	1,735.01
MH-2	66.00	1,763.34	1,748.98	1,748.94
MH-3	66.00	1,777.92	1,767.07	1,767.03
MH-4	64.00	1,793.47	1,783.73	1,783.69
MH-5	64.00	1,804.45	1,790.63	1,790.59
MH-6	64.00	1,813.85	1,801.63	1,800.76
0.05	62.00	1,814.21	1,801.42	1,801.39
MH-8	60.00	1,825.23	1,817.43	1,817.19
MH-9	60.00	1,841.40	1,832.29	1,832.25
MH-10	60.00	1,858.11	1,842.48	1,842.17

MH-11	60.00	1,880.00	1,849.34	1,849.03
MH-12	60.00	1,880.00	1,852.44	1,852.10
I-1	60.00	1,890.00	1,859.33	1,858.00
I-2	2.00	1,815.00	1,801.63	1,801.63
I-3	2.00	1,815.00	1,801.42	1,801.42
GB-2	60.00	1,858.00	1,842.51	1,842.51
GB-1	60.00	1,849.00	1,840.65	1,840.65
GB-4	60.00	1,880.00	1,846.69	1,846.69
GB-3	60.00	1,858.00	1,846.30	1,846.30

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-4	2.00	1,777.20	1,771.78	1,771.58
I-6	2.00	1,753.45	1,749.12	1,748.89
MH-23	70.00	1,752.35	1,737.80	1,737.76
I-7	2.00	1,761.72	1,757.36	1,757.14
MH-24	68.00	1,761.70	1,746.06	1,746.02

Elapsed: 0 minute(s) 2 second(s)

```
------------------ Beginning Calculation Cycle -------------------
Discharge: 2.00 cfs  at node I-6
Discharge: 90.00 cfs  at node I-1
Discharge: 90.00 cfs  at node MH-12
Discharge: 90.00 cfs  at node MH-11
Discharge: 90.00 cfs  at node GB-4
Discharge: 90.00 cfs  at node GB-3
Discharge: 90.00 cfs  at node GB-2
Discharge: 90.00 cfs  at node MH-10
Discharge: 90.00 cfs  at node GB-1
Discharge: 90.00 cfs  at node MH-9
Discharge: 90.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 92.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 94.00 cfs  at node MH-6
Discharge: 94.00 cfs  at node MH-5
Discharge: 94.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 96.00 cfs  at node MH-3
Discharge: 96.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 98.00 cfs  at node MH-24
Discharge: 100.00 cfs  at node MH-23
Discharge: 100.00 cfs  at node MH-1
Discharge: 100.00 cfs  at node Outlet
Beginning iteration 1
Discharge: 2.00 cfs  at node I-6
Discharge: 90.00 cfs  at node I-1
Discharge: 90.00 cfs  at node MH-12
Discharge: 90.00 cfs  at node MH-11
Discharge: 90.00 cfs  at node GB-4
Discharge: 90.00 cfs  at node GB-3
Discharge: 90.00 cfs  at node GB-2
Discharge: 90.00 cfs  at node MH-10
Discharge: 90.00 cfs  at node GB-1
Discharge: 90.00 cfs  at node MH-9
Discharge: 90.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 92.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 94.00 cfs  at node MH-6
Discharge: 94.00 cfs  at node MH-5
Discharge: 94.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 96.00 cfs  at node MH-3
Discharge: 96.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 98.00 cfs  at node MH-24
Discharge: 100.00 cfs  at node MH-23
Discharge: 100.00 cfs  at node MH-1
Discharge: 100.00 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Warning: No Duration data exists in IDF Table
Information: Outlet Known flow propagated from upstream junctions.
Information: P-1 Surcharged condition
Information: MH-1 Known flow propagated from upstream junctions.
Information: MH-23 Known flow propagated from upstream junctions.
Information: MH-24 Known flow propagated from upstream junctions.
Information: MH-2 Known flow propagated from upstream junctions.
Information: MH-3 Known flow propagated from upstream junctions.
Information: MH-4 Known flow propagated from upstream junctions.
Information: MH-5 Known flow propagated from upstream junctions.
Information: MH-6 Known flow propagated from upstream junctions.
Information: 0.05 Known flow propagated from upstream junctions.
```

Information: MH-8 Known flow propagated from upstream junctions.
Information: MH-9 Known flow propagated from upstream junctions.
Information: GB-1 Known flow propagated from upstream junctions.
Information: MH-10 Known flow propagated from upstream junctions.
Information: GB-2 Known flow propagated from upstream junctions.
Information: GB-3 Known flow propagated from upstream junctions.
Information: GB-4 Known flow propagated from upstream junctions.
Information: MH-11 Known flow propagated from upstream junctions.
Information: MH-12 Known flow propagated from upstream junctions.
---------- Calculations Complete ----------

** Analysis Options **
Friction method: Manning's Formula
Hydraulic Grade Convergence Test: 0.001000
Maximum Network Traversals: 5
Number of Flow Profile Steps: 5
Discharge Convergence Test: 0.001000
Maximum Design Passes: 3

---------- Network Quick View ----------

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-1	74.65	90 inch	100.00	1,735.02	1,735.00
P-3	660.00	90 inch	96.00	1,767.46	1,749.42
P-5	450.00	66 inch	94.00	1,791.08	1,784.23
P-16	179.00	54 inch	90.00	1,852.63	1,849.98
P-17	344.00	54 inch	90.00	1,858.53	1,853.08
P-6	460.76	66 inch	94.00	1,801.25	1,791.13
P-9	660.00	54 inch	90.00	1,832.78	1,818.02
P-8	540.76	60 inch	90.00	1,817.70	1,802.21
P-7	18.50	66 inch	92.00	1,802.18	1,802.35
P-19	98.00	60 inch	2.00	1,802.21	1,802.21
P-18	108.00	60 inch	2.00	1,802.35	1,802.35
P-12	30.00	54 inch	90.00	1,843.30	1,843.23
P-11	320.00	54 inch	90.00	1,842.85	1,841.18
P-10	340.00	54 inch	90.00	1,841.18	1,832.84
P-15	146.00	54 inch	90.00	1,849.56	1,847.34
P-14	59.74	54 inch	90.00	1,847.34	1,846.83
P-13	25.26	54 inch	90.00	1,846.83	1,843.30
P-4	660.00	66 inch	94.00	1,784.18	1,766.57
P-28	55.00	60 inch	2.00	1,771.58	1,767.51
P-2	351.00	90 inch	100.00	1,738.19	1,735.06

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-34	61.00	36 inch	2.00	1,748.89	1,738.23
P-38	107.50	90 inch	96.00	1,749.37	1,746.50
P-36	302.50	90 inch	98.00	1,746.45	1,738.23
P-37	82.00	42 inch	2.00	1,757.14	1,746.50

Label	Discharge	Elevations Ground	Elevations Upstream HGL	Elevations Downstream HGL
Outlet	100.00	1,745.00	1,735.00	1,735.00
MH-1	100.00	1,748.90	1,735.06	1,735.02
MH-2	96.00	1,763.34	1,749.42	1,749.37
MH-3	96.00	1,777.92	1,767.51	1,767.46
MH-4	94.00	1,793.47	1,784.23	1,784.18
MH-5	94.00	1,804.45	1,791.13	1,791.08
MH-6	94.00	1,813.85	1,802.35	1,801.25
0.05	92.00	1,814.21	1,802.21	1,802.18
MH-8	90.00	1,825.23	1,818.02	1,817.70
MH-9	90.00	1,841.40	1,832.84	1,832.78
MH-10	90.00	1,858.11	1,843.23	1,842.85

MH-11	90.00	1,880.00	1,849.98	1,849.56
MH-12	90.00	1,880.00	1,853.08	1,852.63
I-1	90.00	1,890.00	1,860.30	1,858.53
I-2	2.00	1,815.00	1,802.35	1,802.35
I-3	2.00	1,815.00	1,802.21	1,802.21
GB-2	90.00	1,858.00	1,843.30	1,843.30
GB-1	90.00	1,849.00	1,841.18	1,841.18
GB-4	90.00	1,880.00	1,847.34	1,847.34
GB-3	90.00	1,858.00	1,846.83	1,846.83

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-4	2.00	1,777.20	1,771.78	1,771.58
I-6	2.00	1,753.45	1,749.12	1,748.89
MH-23	100.00	1,752.35	1,738.23	1,738.19
I-7	2.00	1,761.72	1,757.36	1,757.14
MH-24	98.00	1,761.70	1,746.50	1,746.45

Elapsed: 0 minute(s) 2 second(s)

```
----------------- Beginning Calculation Cycle -------------------
Discharge: 2.00 cfs  at node I-6
Discharge: 120.00 cfs  at node I-1
Discharge: 120.00 cfs  at node MH-12
Discharge: 120.00 cfs  at node MH-11
Discharge: 120.00 cfs  at node GB-4
Discharge: 120.00 cfs  at node GB-3
Discharge: 120.00 cfs  at node GB-2
Discharge: 120.00 cfs  at node MH-10
Discharge: 120.00 cfs  at node GB-1
Discharge: 120.00 cfs  at node MH-9
Discharge: 120.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 122.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 124.00 cfs  at node MH-6
Discharge: 124.00 cfs  at node MH-5
Discharge: 124.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 126.00 cfs  at node MH-3
Discharge: 126.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 128.00 cfs  at node MH-24
Discharge: 130.00 cfs  at node MH-23
Discharge: 130.00 cfs  at node MH-1
Discharge: 130.00 cfs  at node Outlet
Beginning iteration 1
Discharge: 2.00 cfs  at node I-6
Discharge: 120.00 cfs  at node I-1
Discharge: 120.00 cfs  at node MH-12
Discharge: 120.00 cfs  at node MH-11
Discharge: 120.00 cfs  at node GB-4
Discharge: 120.00 cfs  at node GB-3
Discharge: 120.00 cfs  at node GB-2
Discharge: 120.00 cfs  at node MH-10
Discharge: 120.00 cfs  at node GB-1
Discharge: 120.00 cfs  at node MH-9
Discharge: 120.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 122.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 124.00 cfs  at node MH-6
Discharge: 124.00 cfs  at node MH-5
Discharge: 124.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 126.00 cfs  at node MH-3
Discharge: 126.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 128.00 cfs  at node MH-24
Discharge: 130.00 cfs  at node MH-23
Discharge: 130.00 cfs  at node MH-1
Discharge: 130.00 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Warning: No Duration data exists in IDF Table
Information: Outlet Known flow propagated from upstream junctions.
Information: P-1 Surcharged condition
Information: MH-1 Known flow propagated from upstream junctions.
Information: MH-23 Known flow propagated from upstream junctions.
Information: MH-24 Known flow propagated from upstream junctions.
Information: MH-2 Known flow propagated from upstream junctions.
Information: MH-3 Known flow propagated from upstream junctions.
Information: MH-4 Known flow propagated from upstream junctions.
Information: MH-5 Known flow propagated from upstream junctions.
Information: MH-6 Known flow propagated from upstream junctions.
Information: 0.05 Known flow propagated from upstream junctions.
```

```
Information: MH-8 Known flow propagated from upstream junctions.
Information: MH-9 Known flow propagated from upstream junctions.
Information: GB-1 Known flow propagated from upstream junctions.
Information: MH-10 Known flow propagated from upstream junctions.
Information: GB-2 Known flow propagated from upstream junctions.
Information: GB-3 Known flow propagated from upstream junctions.
Information: GB-4 Known flow propagated from upstream junctions.
Information: MH-11 Known flow propagated from upstream junctions.
Information: MH-12 Known flow propagated from upstream junctions.
--------------------- Calculations Complete ---------------------
```

** Analysis Options **
Friction method: Manning's Formula
Hydraulic Grade Convergence Test: 0.001000
Maximum Network Traversals: 5
Number of Flow Profile Steps: 5
Discharge Convergence Test: 0.001000
Maximum Design Passes: 3

---------- Network Quick View ----------

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-1	74.65	90 inch	130.00	1,735.03	1,735.00
P-3	660.00	90 inch	126.00	1,767.84	1,749.80
P-5	450.00	66 inch	124.00	1,791.49	1,784.66
P-16	179.00	54 inch	120.00	1,853.08	1,850.53
P-17	344.00	54 inch	120.00	1,858.98	1,853.65
P-6	460.76	66 inch	124.00	1,801.66	1,791.56
P-9	660.00	54 inch	120.00	1,833.23	1,818.53
P-8	540.76	60 inch	120.00	1,818.14	1,802.91
P-7	18.50	66 inch	122.00	1,802.87	1,803.00
P-19	98.00	60 inch	2.00	1,802.91	1,802.91
P-18	108.00	60 inch	2.00	1,803.00	1,803.00
P-12	30.00	54 inch	120.00	1,844.19	1,844.07
P-11	320.00	54 inch	120.00	1,843.65	1,841.63
P-10	340.00	54 inch	120.00	1,841.63	1,833.30
P-15	146.00	54 inch	120.00	1,850.01	1,847.94
P-14	59.74	54 inch	120.00	1,847.94	1,847.28
P-13	25.26	54 inch	120.00	1,847.28	1,844.19
P-4	660.00	66 inch	124.00	1,784.59	1,766.81
P-28	55.00	60 inch	2.00	1,771.58	1,767.89
P-2	351.00	90 inch	130.00	1,738.55	1,735.11

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-34	61.00	36 inch	2.00	1,748.89	1,738.61
P-38	107.50	90 inch	126.00	1,749.75	1,746.87
P-36	302.50	90 inch	128.00	1,746.82	1,738.61
P-37	82.00	42 inch	2.00	1,757.14	1,746.87

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
Outlet	130.00	1,745.00	1,735.00	1,735.00
MH-1	130.00	1,748.90	1,735.11	1,735.03
MH-2	126.00	1,763.34	1,749.80	1,749.75
MH-3	126.00	1,777.92	1,767.89	1,767.84
MH-4	124.00	1,793.47	1,784.66	1,784.59
MH-5	124.00	1,804.45	1,791.56	1,791.49
MH-6	124.00	1,813.85	1,803.00	1,801.66
0.05	122.00	1,814.21	1,802.91	1,802.87
MH-8	120.00	1,825.23	1,818.53	1,818.14
MH-9	120.00	1,841.40	1,833.30	1,833.23
MH-10	120.00	1,858.11	1,844.07	1,843.65

MH-11	120.00	1,880.00	1,850.53	1,850.01
MH-12	120.00	1,880.00	1,853.65	1,853.08
I-1	120.00	1,890.00	1,861.23	1,858.98
I-2	2.00	1,815.00	1,803.00	1,803.00
I-3	2.00	1,815.00	1,802.91	1,802.91
GB-2	120.00	1,858.00	1,844.19	1,844.19
GB-1	120.00	1,849.00	1,841.63	1,841.63
GB-4	120.00	1,880.00	1,847.94	1,847.94
GB-3	120.00	1,858.00	1,847.28	1,847.28

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-4	2.00	1,777.20	1,771.78	1,771.58
I-6	2.00	1,753.45	1,749.12	1,748.89
MH-23	130.00	1,752.35	1,738.61	1,738.55
I-7	2.00	1,761.72	1,757.36	1,757.14
MH-24	128.00	1,761.70	1,746.87	1,746.82

Elapsed: 0 minute(s) 2 second(s)

```
------------------ Beginning Calculation Cycle ------------------
Discharge: 2.00 cfs  at node I-6
Discharge: 150.00 cfs  at node I-1
Discharge: 150.00 cfs  at node MH-12
Discharge: 150.00 cfs  at node MH-11
Discharge: 150.00 cfs  at node GB-4
Discharge: 150.00 cfs  at node GB-3
Discharge: 150.00 cfs  at node GB-2
Discharge: 150.00 cfs  at node MH-10
Discharge: 150.00 cfs  at node GB-1
Discharge: 150.00 cfs  at node MH-9
Discharge: 150.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 152.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 154.00 cfs  at node MH-6
Discharge: 154.00 cfs  at node MH-5
Discharge: 154.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 156.00 cfs  at node MH-3
Discharge: 156.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 158.00 cfs  at node MH-24
Discharge: 160.00 cfs  at node MH-23
Discharge: 160.00 cfs  at node MH-1
Discharge: 160.00 cfs  at node Outlet
Beginning iteration 1
Discharge: 2.00 cfs  at node I-6
Discharge: 150.00 cfs  at node I-1
Discharge: 150.00 cfs  at node MH-12
Discharge: 150.00 cfs  at node MH-11
Discharge: 150.00 cfs  at node GB-4
Discharge: 150.00 cfs  at node GB-3
Discharge: 150.00 cfs  at node GB-2
Discharge: 150.00 cfs  at node MH-10
Discharge: 150.00 cfs  at node GB-1
Discharge: 150.00 cfs  at node MH-9
Discharge: 150.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 152.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 154.00 cfs  at node MH-6
Discharge: 154.00 cfs  at node MH-5
Discharge: 154.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 156.00 cfs  at node MH-3
Discharge: 156.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 158.00 cfs  at node MH-24
Discharge: 160.00 cfs  at node MH-23
Discharge: 160.00 cfs  at node MH-1
Discharge: 160.00 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Warning: No Duration data exists in IDF Table
Information: Outlet Known flow propagated from upstream junctions.
Information: P-1 Surcharged condition
Information: MH-1 Known flow propagated from upstream junctions.
Information: MH-23 Known flow propagated from upstream junctions.
Information: MH-24 Known flow propagated from upstream junctions.
Information: MH-2 Known flow propagated from upstream junctions.
Information: MH-3 Known flow propagated from upstream junctions.
Information: MH-4 Known flow propagated from upstream junctions.
Information: MH-5 Known flow propagated from upstream junctions.
Information: MH-6 Known flow propagated from upstream junctions.
Information: 0.05 Known flow propagated from upstream junctions.
```

```
Information: MH-8 Known flow propagated from upstream junctions.
Information: MH-9 Known flow propagated from upstream junctions.
Information: GB-1 Known flow propagated from upstream junctions.
Information: MH-10 Known flow propagated from upstream junctions.
Information: P-12 Surcharged condition
Information: GB-2 Known flow propagated from upstream junctions.
Information: GB-3 Known flow propagated from upstream junctions.
Information: GB-4 Known flow propagated from upstream junctions.
Information: MH-11 Known flow propagated from upstream junctions.
Information: MH-12 Known flow propagated from upstream junctions.
-------------------- Calculations Complete ---------------------

** Analysis Options **
Friction method:  Manning's Formula
Hydraulic Grade Convergence Test:  0.001000
Maximum Network Traversals:  5
Number of Flow Profile Steps:  5
Discharge Convergence Test:  0.001000
Maximum Design Passes:  3
```

---------- Network Quick View ----------

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-1	74.65	90 inch	160.00	1,735.04	1,735.00
P-3	660.00	90 inch	156.00	1,768.17	1,750.14
P-5	450.00	66 inch	154.00	1,791.86	1,785.04
P-16	179.00	54 inch	150.00	1,853.44	1,851.03
P-17	344.00	54 inch	150.00	1,859.34	1,854.16
P-6	460.76	66 inch	154.00	1,802.03	1,791.94
P-9	660.00	54 inch	150.00	1,833.59	1,818.99
P-8	540.76	60 inch	150.00	1,818.52	1,803.57
P-7	18.50	66 inch	152.00	1,803.53	1,803.61
P-19	98.00	60 inch	2.00	1,803.57	1,803.57
P-18	108.00	60 inch	2.00	1,803.61	1,803.61
P-12	30.00	54 inch	150.00	1,845.62	1,845.38
P-11	320.00	54 inch	150.00	1,844.86	1,841.99
P-10	340.00	54 inch	150.00	1,841.99	1,833.69
P-15	146.00	54 inch	150.00	1,850.37	1,848.48
P-14	59.74	54 inch	150.00	1,848.48	1,847.64
P-13	25.26	54 inch	150.00	1,847.64	1,845.62
P-4	660.00	66 inch	154.00	1,784.96	1,767.03
P-28	55.00	60 inch	2.00	1,771.58	1,768.23
P-2	351.00	90 inch	160.00	1,738.88	1,735.17

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-34	61.00	36 inch	2.00	1,748.89	1,738.94
P-38	107.50	90 inch	156.00	1,750.08	1,747.21
P-36	302.50	90 inch	158.00	1,747.15	1,738.94
P-37	82.00	42 inch	2.00	1,757.14	1,747.21

Label	Discharge	Elevations Ground	Elevations Upstream HGL	Elevations Downstream HGL
Outlet	160.00	1,745.00	1,735.00	1,735.00
MH-1	160.00	1,748.90	1,735.17	1,735.04
MH-2	156.00	1,763.34	1,750.14	1,750.08
MH-3	156.00	1,777.92	1,768.23	1,768.17
MH-4	154.00	1,793.47	1,785.04	1,784.96
MH-5	154.00	1,804.45	1,791.94	1,791.86
MH-6	154.00	1,813.85	1,803.61	1,802.03
0.05	152.00	1,814.21	1,803.57	1,803.53
MH-8	150.00	1,825.23	1,818.99	1,818.52
MH-9	150.00	1,841.40	1,833.69	1,833.59

MH-10	150.00	1,858.11	1,845.38	1,844.86
MH-11	150.00	1,880.00	1,851.03	1,850.37
MH-12	150.00	1,880.00	1,854.16	1,853.44
I-1	150.00	1,890.00	1,862.17	1,859.34
I-2	2.00	1,815.00	1,803.61	1,803.61
I-3	2.00	1,815.00	1,803.57	1,803.57
GB-2	150.00	1,858.00	1,845.62	1,845.62
GB-1	150.00	1,849.00	1,841.99	1,841.99
GB-4	150.00	1,880.00	1,848.48	1,848.48
GB-3	150.00	1,858.00	1,847.64	1,847.64

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-4	2.00	1,777.20	1,771.78	1,771.58
I-6	2.00	1,753.45	1,749.12	1,748.89
MH-23	160.00	1,752.35	1,738.94	1,738.88
I-7	2.00	1,761.72	1,757.36	1,757.14
MH-24	158.00	1,761.70	1,747.21	1,747.15

Elapsed: 0 minute(s) 2 second(s)

```
------------------ Beginning Calculation Cycle ------------------
Discharge: 2.00 cfs  at node I-6
Discharge: 180.00 cfs  at node I-1
Discharge: 180.00 cfs  at node MH-12
Discharge: 180.00 cfs  at node MH-11
Discharge: 180.00 cfs  at node GB-4
Discharge: 180.00 cfs  at node GB-3
Discharge: 180.00 cfs  at node GB-2
Discharge: 180.00 cfs  at node MH-10
Discharge: 180.00 cfs  at node GB-1
Discharge: 180.00 cfs  at node MH-9
Discharge: 180.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 182.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 184.00 cfs  at node MH-6
Discharge: 184.00 cfs  at node MH-5
Discharge: 184.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 186.00 cfs  at node MH-3
Discharge: 186.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 188.00 cfs  at node MH-24
Discharge: 190.00 cfs  at node MH-23
Discharge: 190.00 cfs  at node MH-1
Discharge: 190.00 cfs  at node Outlet
Beginning iteration 1
Discharge: 2.00 cfs  at node I-6
Discharge: 180.00 cfs  at node I-1
Discharge: 180.00 cfs  at node MH-12
Discharge: 180.00 cfs  at node MH-11
Discharge: 180.00 cfs  at node GB-4
Discharge: 180.00 cfs  at node GB-3
Discharge: 180.00 cfs  at node GB-2
Discharge: 180.00 cfs  at node MH-10
Discharge: 180.00 cfs  at node GB-1
Discharge: 180.00 cfs  at node MH-9
Discharge: 180.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 182.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 184.00 cfs  at node MH-6
Discharge: 184.00 cfs  at node MH-5
Discharge: 184.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 186.00 cfs  at node MH-3
Discharge: 186.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 188.00 cfs  at node MH-24
Discharge: 190.00 cfs  at node MH-23
Discharge: 190.00 cfs  at node MH-1
Discharge: 190.00 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Warning: No Duration data exists in IDF Table
Information: Outlet Known flow propagated from upstream junctions.
Information: P-1 Surcharged condition
Information: MH-1 Known flow propagated from upstream junctions.
Information: MH-23 Known flow propagated from upstream junctions.
Information: MH-24 Known flow propagated from upstream junctions.
Information: MH-2 Known flow propagated from upstream junctions.
Information: MH-3 Known flow propagated from upstream junctions.
Information: MH-4 Known flow propagated from upstream junctions.
Information: MH-5 Known flow propagated from upstream junctions.
Information: MH-6 Known flow propagated from upstream junctions.
Information: 0.05 Known flow propagated from upstream junctions.
```

```
Information: MH-8 Known flow propagated from upstream junctions.
Information: MH-9 Known flow propagated from upstream junctions.
Information: GB-1 Known flow propagated from upstream junctions.
Information: MH-10 Known flow propagated from upstream junctions.
Information: P-12 Surcharged condition
Information: GB-2 Known flow propagated from upstream junctions.
Information: GB-3 Known flow propagated from upstream junctions.
Information: GB-4 Known flow propagated from upstream junctions.
Information: MH-11 Known flow propagated from upstream junctions.
Information: MH-12 Known flow propagated from upstream junctions.
-------------------- Calculations Complete ---------------------

** Analysis Options **
Friction method:  Manning's Formula
Hydraulic Grade Convergence Test:  0.001000
Maximum Network Traversals:  5
Number of Flow Profile Steps:  5
Discharge Convergence Test:  0.001000
Maximum Design Passes:  3
```

---------- Network Quick View ----------

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-1	74.65	90 inch	190.00	1,735.06	1,735.00
P-3	660.00	90 inch	186.00	1,768.48	1,750.45
P-5	450.00	66 inch	184.00	1,792.20	1,785.38
P-16	179.00	54 inch	180.00	1,853.74	1,851.49
P-17	344.00	54 inch	180.00	1,859.64	1,854.63
P-6	460.76	66 inch	184.00	1,802.37	1,792.28
P-9	660.00	54 inch	180.00	1,833.89	1,819.41
P-8	540.76	60 inch	180.00	1,818.85	1,804.27
P-7	18.50	66 inch	182.00	1,804.23	1,804.19
P-19	98.00	60 inch	2.00	1,804.27	1,804.27
P-18	108.00	60 inch	2.00	1,804.19	1,804.19
P-12	30.00	54 inch	180.00	1,847.27	1,846.93
P-11	320.00	54 inch	180.00	1,846.18	1,842.29
P-10	340.00	54 inch	180.00	1,842.29	1,834.00
P-15	146.00	54 inch	180.00	1,850.67	1,848.93
P-14	59.74	54 inch	180.00	1,848.93	1,847.94
P-13	25.26	54 inch	180.00	1,847.94	1,847.27
P-4	660.00	66 inch	184.00	1,785.30	1,767.23
P-28	55.00	60 inch	2.00	1,771.58	1,768.54
P-2	351.00	90 inch	190.00	1,739.18	1,735.23

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-34	61.00	36 inch	2.00	1,748.89	1,739.25
P-38	107.50	90 inch	186.00	1,750.39	1,747.52
P-36	302.50	90 inch	188.00	1,747.46	1,739.25
P-37	82.00	42 inch	2.00	1,757.14	1,747.52

Label	Discharge	Elevations Ground	Elevations Upstream HGL	Elevations Downstream HGL
Outlet	190.00	1,745.00	1,735.00	1,735.00
MH-1	190.00	1,748.90	1,735.23	1,735.06
MH-2	186.00	1,763.34	1,750.45	1,750.39
MH-3	186.00	1,777.92	1,768.54	1,768.48
MH-4	184.00	1,793.47	1,785.38	1,785.30
MH-5	184.00	1,804.45	1,792.28	1,792.20
MH-6	184.00	1,813.85	1,804.19	1,802.37
0.05	182.00	1,814.21	1,804.27	1,804.23
MH-8	180.00	1,825.23	1,819.41	1,818.85
MH-9	180.00	1,841.40	1,834.00	1,833.89

MH-10	180.00	1,858.11	1,846.93	1,846.18
MH-11	180.00	1,880.00	1,851.49	1,850.67
MH-12	180.00	1,880.00	1,854.63	1,853.74
I-1	180.00	1,890.00	1,863.18	1,859.64
I-2	2.00	1,815.00	1,804.19	1,804.19
I-3	2.00	1,815.00	1,804.27	1,804.27
GB-2	180.00	1,858.00	1,847.27	1,847.27
GB-1	180.00	1,849.00	1,842.29	1,842.29
GB-4	180.00	1,880.00	1,848.93	1,848.93
GB-3	180.00	1,858.00	1,847.94	1,847.94

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-4	2.00	1,777.20	1,771.78	1,771.58
I-6	2.00	1,753.45	1,749.12	1,748.89
MH-23	190.00	1,752.35	1,739.25	1,739.18
I-7	2.00	1,761.72	1,757.36	1,757.14
MH-24	188.00	1,761.70	1,747.52	1,747.46

Elapsed: 0 minute(s) 2 second(s)

```
------------------ Beginning Calculation Cycle -------------------
Discharge: 2.00 cfs  at node I-6
Discharge: 210.00 cfs  at node I-1
Discharge: 210.00 cfs  at node MH-12
Discharge: 210.00 cfs  at node MH-11
Discharge: 210.00 cfs  at node GB-4
Discharge: 210.00 cfs  at node GB-3
Discharge: 210.00 cfs  at node GB-2
Discharge: 210.00 cfs  at node MH-10
Discharge: 210.00 cfs  at node GB-1
Discharge: 210.00 cfs  at node MH-9
Discharge: 210.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 212.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 214.00 cfs  at node MH-6
Discharge: 214.00 cfs  at node MH-5
Discharge: 214.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 216.00 cfs  at node MH-3
Discharge: 216.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 218.00 cfs  at node MH-24
Discharge: 220.00 cfs  at node MH-23
Discharge: 220.00 cfs  at node MH-1
Discharge: 220.00 cfs  at node Outlet
Beginning iteration 1
Discharge: 2.00 cfs  at node I-6
Discharge: 210.00 cfs  at node I-1
Discharge: 210.00 cfs  at node MH-12
Discharge: 210.00 cfs  at node MH-11
Discharge: 210.00 cfs  at node GB-4
Discharge: 210.00 cfs  at node GB-3
Discharge: 210.00 cfs  at node GB-2
Discharge: 210.00 cfs  at node MH-10
Discharge: 210.00 cfs  at node GB-1
Discharge: 210.00 cfs  at node MH-9
Discharge: 210.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 212.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 214.00 cfs  at node MH-6
Discharge: 214.00 cfs  at node MH-5
Discharge: 214.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 216.00 cfs  at node MH-3
Discharge: 216.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 218.00 cfs  at node MH-24
Discharge: 220.00 cfs  at node MH-23
Discharge: 220.00 cfs  at node MH-1
Discharge: 220.00 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Warning: No Duration data exists in IDF Table
Information: Outlet Known flow propagated from upstream junctions.
Information: P-1 Surcharged condition
Information: MH-1 Known flow propagated from upstream junctions.
Information: MH-23 Known flow propagated from upstream junctions.
Information: MH-24 Known flow propagated from upstream junctions.
Information: MH-2 Known flow propagated from upstream junctions.
Information: MH-3 Known flow propagated from upstream junctions.
Information: MH-4 Known flow propagated from upstream junctions.
Information: MH-5 Known flow propagated from upstream junctions.
Information: MH-6 Known flow propagated from upstream junctions.
Information: P-7 Surcharged condition
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Information: P-18 Surcharged condition
Information: 0.05 Known flow propagated from upstream junctions.
Information: MH-8 Known flow propagated from upstream junctions.
Information: MH-9 Known flow propagated from upstream junctions.
Information: GB-1 Known flow propagated from upstream junctions.
Information: MH-10 Known flow propagated from upstream junctions.
Information: P-12 Surcharged condition
Information: GB-2 Known flow propagated from upstream junctions.
Information: P-13 Surcharged condition
Information: GB-3 Known flow propagated from upstream junctions.
Information: P-14 Surcharged condition
Information: GB-4 Known flow propagated from upstream junctions.
Information: P-15 Surcharged condition
Information: MH-11 Known flow propagated from upstream junctions.
Information: P-16 Surcharged condition
Information: MH-12 Known flow propagated from upstream junctions.
Information: P-17 Surcharged condition
--------------------- Calculations Complete ---------------------

** Analysis Options **
Friction method:  Manning's Formula
Hydraulic Grade Convergence Test:  0.001000
Maximum Network Traversals:  5
Number of Flow Profile Steps:  5
Discharge Convergence Test:  0.001000
Maximum Design Passes:  3
```

---------- Network Quick View ----------

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-1	74.65	90 inch	220.00	1,735.08	1,735.00
P-3	660.00	90 inch	216.00	1,768.76	1,750.74
P-5	450.00	66 inch	214.00	1,792.50	1,785.69
P-16	179.00	54 inch	210.00	1,856.25	1,853.53
P-17	344.00	54 inch	210.00	1,862.50	1,857.28
P-6	460.76	66 inch	214.00	1,802.67	1,792.59
P-9	660.00	54 inch	210.00	1,834.10	1,819.80
P-8	540.76	60 inch	210.00	1,819.14	1,804.92
P-7	18.50	66 inch	212.00	1,804.86	1,804.76
P-19	98.00	60 inch	2.00	1,804.92	1,804.92
P-18	108.00	60 inch	2.00	1,804.76	1,804.76
P-12	30.00	54 inch	210.00	1,849.07	1,848.62
P-11	320.00	54 inch	210.00	1,847.59	1,842.50
P-10	340.00	54 inch	210.00	1,842.50	1,834.25
P-15	146.00	54 inch	210.00	1,852.58	1,850.37
P-14	59.74	54 inch	210.00	1,850.37	1,849.46
P-13	25.26	54 inch	210.00	1,849.46	1,849.07
P-4	660.00	66 inch	214.00	1,785.60	1,767.43
P-28	55.00	60 inch	2.00	1,771.58	1,768.83
P-2	351.00	90 inch	220.00	1,739.47	1,735.31

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-34	61.00	36 inch	2.00	1,748.89	1,739.54
P-38	107.50	90 inch	216.00	1,750.67	1,747.81
P-36	302.50	90 inch	218.00	1,747.74	1,739.54
P-37	82.00	42 inch	2.00	1,757.14	1,747.81

Label	Discharge	Elevations Ground	Elevations Upstream HGL	Elevations Downstream HGL
Outlet	220.00	1,745.00	1,735.00	1,735.00
MH-1	220.00	1,748.90	1,735.31	1,735.08
MH-2	216.00	1,763.34	1,750.74	1,750.67

MH-3	216.00	1,777.92	1,768.83	1,768.76
MH-4	214.00	1,793.47	1,785.69	1,785.60
MH-5	214.00	1,804.45	1,792.59	1,792.50
MH-6	214.00	1,813.85	1,804.76	1,802.67
0.05	212.00	1,814.21	1,804.92	1,804.86
MH-8	210.00	1,825.23	1,819.80	1,819.14
MH-9	210.00	1,841.40	1,834.25	1,834.10
MH-10	210.00	1,858.11	1,848.62	1,847.59
MH-11	210.00	1,880.00	1,853.53	1,852.58
MH-12	210.00	1,880.00	1,857.28	1,856.25
I-1	210.00	1,890.00	1,866.57	1,862.50
I-2	2.00	1,815.00	1,804.76	1,804.76
I-3	2.00	1,815.00	1,804.92	1,804.92
GB-2	210.00	1,858.00	1,849.07	1,849.07
GB-1	210.00	1,849.00	1,842.50	1,842.50
GB-4	210.00	1,880.00	1,850.37	1,850.37
GB-3	210.00	1,858.00	1,849.46	1,849.46

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-4	2.00	1,777.20	1,771.78	1,771.58
I-6	2.00	1,753.45	1,749.12	1,748.89
MH-23	220.00	1,752.35	1,739.54	1,739.47
I-7	2.00	1,761.72	1,757.36	1,757.14
MH-24	218.00	1,761.70	1,747.81	1,747.74

Elapsed: 0 minute(s) 2 second(s)

```
------------------ Beginning Calculation Cycle -------------------
Discharge: 2.00 cfs  at node I-6
Discharge: 240.00 cfs  at node I-1
Discharge: 240.00 cfs  at node MH-12
Discharge: 240.00 cfs  at node MH-11
Discharge: 240.00 cfs  at node GB-4
Discharge: 240.00 cfs  at node GB-3
Discharge: 240.00 cfs  at node GB-2
Discharge: 240.00 cfs  at node MH-10
Discharge: 240.00 cfs  at node GB-1
Discharge: 240.00 cfs  at node MH-9
Discharge: 240.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 242.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 244.00 cfs  at node MH-6
Discharge: 244.00 cfs  at node MH-5
Discharge: 244.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 246.00 cfs  at node MH-3
Discharge: 246.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 248.00 cfs  at node MH-24
Discharge: 250.00 cfs  at node MH-23
Discharge: 250.00 cfs  at node MH-1
Discharge: 250.00 cfs  at node Outlet
Beginning iteration 1
Discharge: 2.00 cfs  at node I-6
Discharge: 240.00 cfs  at node I-1
Discharge: 240.00 cfs  at node MH-12
Discharge: 240.00 cfs  at node MH-11
Discharge: 240.00 cfs  at node GB-4
Discharge: 240.00 cfs  at node GB-3
Discharge: 240.00 cfs  at node GB-2
Discharge: 240.00 cfs  at node MH-10
Discharge: 240.00 cfs  at node GB-1
Discharge: 240.00 cfs  at node MH-9
Discharge: 240.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 242.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 244.00 cfs  at node MH-6
Discharge: 244.00 cfs  at node MH-5
Discharge: 244.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 246.00 cfs  at node MH-3
Discharge: 246.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 248.00 cfs  at node MH-24
Discharge: 250.00 cfs  at node MH-23
Discharge: 250.00 cfs  at node MH-1
Discharge: 250.00 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Warning: No Duration data exists in IDF Table
Information: Outlet Known flow propagated from upstream junctions.
Information: P-1 Surcharged condition
Information: MH-1 Known flow propagated from upstream junctions.
Information: MH-23 Known flow propagated from upstream junctions.
Information: MH-24 Known flow propagated from upstream junctions.
Information: MH-2 Known flow propagated from upstream junctions.
Information: MH-3 Known flow propagated from upstream junctions.
Information: MH-4 Known flow propagated from upstream junctions.
Information: MH-5 Known flow propagated from upstream junctions.
Information: MH-6 Known flow propagated from upstream junctions.
Information: P-7 Surcharged condition
```

```
Information: P-18 Surcharged condition
Information: 0:05 Known flow propagated from upstream junctions.
Information: P-19 Surcharged condition
Information: MH-8 Known flow propagated from upstream junctions.
Information: MH-9 Known flow propagated from upstream junctions.
Information: GB-1 Known flow propagated from upstream junctions.
Information: MH-10 Known flow propagated from upstream junctions.
Information: P-12 Surcharged condition
Information: GB-2 Known flow propagated from upstream junctions.
Information: P-13 Surcharged condition
Information: GB-3 Known flow propagated from upstream junctions.
Information: P-14 Surcharged condition
Information: GB-4 Known flow propagated from upstream junctions.
Information: P-15 Surcharged condition
Information: MH-11 Known flow propagated from upstream junctions.
Information: P-16 Surcharged condition
Information: MH-12 Known flow propagated from upstream junctions.
Information: P-17 Surcharged condition
--------------------- Calculations Complete ---------------------

** Analysis Options **
Friction method:  Manning's Formula
Hydraulic Grade Convergence Test:  0.001000
Maximum Network Traversals:  5
Number of Flow Profile Steps:  5
Discharge Convergence Test:  0.001000
Maximum Design Passes:  3
```

---------- Network Quick View ----------

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-1	74.65	90 inch	250.00	1,735.11	1,735.00
P-3	660.00	90 inch	246.00	1,769.02	1,751.01
P-5	450.00	66 inch	244.00	1,792.76	1,785.97
P-16	179.00	54 inch	240.00	1,860.45	1,856.90
P-17	344.00	54 inch	240.00	1,868.62	1,861.80
P-6	460.76	66 inch	244.00	1,802.93	1,792.87
P-9	660.00	54 inch	240.00	1,834.24	1,820.15
P-8	540.76	60 inch	240.00	1,819.37	1,805.54
P-7	18.50	66 inch	242.00	1,805.46	1,805.33
P-19	98.00	60 inch	2.00	1,805.54	1,805.54
P-18	108.00	60 inch	2.00	1,805.33	1,805.33
P-12	30.00	54 inch	240.00	1,851.08	1,850.49
P-11	320.00	54 inch	240.00	1,849.15	1,842.64
P-10	340.00	54 inch	240.00	1,842.64	1,834.43
P-15	146.00	54 inch	240.00	1,855.67	1,852.77
P-14	59.74	54 inch	240.00	1,852.77	1,851.59
P-13	25.26	54 inch	240.00	1,851.59	1,851.08
P-4	660.00	66 inch	244.00	1,785.86	1,767.62
P-28	55.00	60 inch	2.00	1,771.58	1,769.10
P-2	351.00	90 inch	250.00	1,739.73	1,735.40

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-34	61.00	36 inch	2.00	1,748.89	1,739.81
P-38	107.50	90 inch	246.00	1,750.93	1,748.08
P-36	302.50	90 inch	248.00	1,748.00	1,739.81
P-37	82.00	42 inch	2.00	1,757.14	1,748.08

Label	Discharge	Elevations Ground	Elevations Upstream HGL	Elevations Downstream HGL
Outlet	250.00	1,745.00	1,735.00	1,735.00
MH-1	250.00	1,748.90	1,735.40	1,735.11

MH-2	246.00	1,763.34	1,751.01	1,750.93
MH-3	246.00	1,777.92	1,769.10	1,769.02
MH-4	244.00	1,793.47	1,785.97	1,785.86
MH-5	244.00	1,804.45	1,792.87	1,792.76
MH-6	244.00	1,813.85	1,805.33	1,802.93
0.05	242.00	1,814.21	1,805.54	1,805.46
MH-8	240.00	1,825.23	1,820.15	1,819.37
MH-9	240.00	1,841.40	1,834.43	1,834.24
MH-10	240.00	1,858.11	1,850.49	1,849.15
MH-11	240.00	1,880.00	1,856.90	1,855.67
MH-12	240.00	1,880.00	1,861.80	1,860.45
I-1	240.00	1,890.00	1,873.93	1,868.62
I-2	2.00	1,815.00	1,805.33	1,805.33
I-3	2.00	1,815.00	1,805.54	1,805.54
GB-2	240.00	1,858.00	1,851.08	1,851.08
GB-1	240.00	1,849.00	1,842.64	1,842.64
GB-4	240.00	1,880.00	1,852.77	1,852.77
GB-3	240.00	1,858.00	1,851.59	1,851.59

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-4	2.00	1,777.20	1,771.78	1,771.58
I-6	2.00	1,753.45	1,749.12	1,748.89
MH-23	250.00	1,752.35	1,739.81	1,739.73
I-7	2.00	1,761.72	1,757.36	1,757.14
MH-24	248.00	1,761.70	1,748.08	1,748.00

Elapsed: 0 minute(s) 2 second(s)

```
------------------ Beginning Calculation Cycle ------------------
Discharge: 2.00 cfs  at node I-6
Discharge: 270.00 cfs  at node I-1
Discharge: 270.00 cfs  at node MH-12
Discharge: 270.00 cfs  at node MH-11
Discharge: 270.00 cfs  at node GB-4
Discharge: 270.00 cfs  at node GB-3
Discharge: 270.00 cfs  at node GB-2
Discharge: 270.00 cfs  at node MH-10
Discharge: 270.00 cfs  at node GB-1
Discharge: 270.00 cfs  at node MH-9
Discharge: 270.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 272.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 274.00 cfs  at node MH-6
Discharge: 274.00 cfs  at node MH-5
Discharge: 274.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 276.00 cfs  at node MH-3
Discharge: 276.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 278.00 cfs  at node MH-24
Discharge: 280.00 cfs  at node MH-23
Discharge: 280.00 cfs  at node MH-1
Discharge: 280.00 cfs  at node Outlet
Beginning iteration 1
Discharge: 2.00 cfs  at node I-6
Discharge: 270.00 cfs  at node I-1
Discharge: 270.00 cfs  at node MH-12
Discharge: 270.00 cfs  at node MH-11
Discharge: 270.00 cfs  at node GB-4
Discharge: 270.00 cfs  at node GB-3
Discharge: 270.00 cfs  at node GB-2
Discharge: 270.00 cfs  at node MH-10
Discharge: 270.00 cfs  at node GB-1
Discharge: 270.00 cfs  at node MH-9
Discharge: 270.00 cfs  at node MH-8
Discharge: 2.00 cfs  at node I-3
Discharge: 272.00 cfs  at node 0.05
Discharge: 2.00 cfs  at node I-2
Discharge: 274.00 cfs  at node MH-6
Discharge: 274.00 cfs  at node MH-5
Discharge: 274.00 cfs  at node MH-4
Discharge: 2.00 cfs  at node I-4
Discharge: 276.00 cfs  at node MH-3
Discharge: 276.00 cfs  at node MH-2
Discharge: 2.00 cfs  at node I-7
Discharge: 278.00 cfs  at node MH-24
Discharge: 280.00 cfs  at node MH-23
Discharge: 280.00 cfs  at node MH-1
Discharge: 280.00 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Warning: No Duration data exists in IDF Table
Information: Outlet Known flow propagated from upstream junctions.
Information: P-1 Surcharged condition
Information: MH-1 Known flow propagated from upstream junctions.
Information: MH-23 Known flow propagated from upstream junctions.
Information: MH-24 Known flow propagated from upstream junctions.
Information: MH-2 Known flow propagated from upstream junctions.
Information: MH-3 Known flow propagated from upstream junctions.
Information: MH-4 Known flow propagated from upstream junctions.
Information: MH-5 Known flow propagated from upstream junctions.
Information: MH-6 Known flow propagated from upstream junctions.
Information: P-7 Surcharged condition
```

```
Information: P-18 Surcharged condition
Information: 0.05 Known flow propagated from upstream junctions.
Information: P-19 Surcharged condition
Information: MH-8 Known flow propagated from upstream junctions.
Information: P-9 Surcharged condition
Information: MH-9 Known flow propagated from upstream junctions.
Information: P-10 Surcharged condition
Information: GB-1 Known flow propagated from upstream junctions.
Information: P-11 Surcharged condition
Information: MH-10 Known flow propagated from upstream junctions.
Information: P-12 Surcharged condition
Information: GB-2 Known flow propagated from upstream junctions.
Information: P-13 Surcharged condition
Information: GB-3 Known flow propagated from upstream junctions.
Information: P-14 Surcharged condition
Information: GB-4 Known flow propagated from upstream junctions.
Information: P-15 Surcharged condition
Information: MH-11 Known flow propagated from upstream junctions.
Information: P-16 Surcharged condition
Information: MH-12 Known flow propagated from upstream junctions.
Information: P-17 Surcharged condition
--------------------- Calculations Complete ----------------------

** Analysis Options **
Friction method:  Manning's Formula
Hydraulic Grade Convergence Test:  0.001000
Maximum Network Traversals:  5
Number of Flow Profile Steps:  5
Discharge Convergence Test:  0.001000
Maximum Design Passes:  3
```

---------- Network Quick View ----------

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-1	74.65	90 inch	280.00	1,735.13	1,735.00
P-3	660.00	90 inch	276.00	1,769.27	1,751.27
P-5	450.00	66 inch	274.00	1,792.99	1,786.22
P-16	179.00	54 inch	270.00	1,868.16	1,863.66
P-17	344.00	54 inch	270.00	1,878.49	1,869.86
P-6	460.76	66 inch	274.00	1,803.16	1,793.12
P-9	660.00	54 inch	270.00	1,837.05	1,820.48
P-8	540.76	60 inch	270.00	1,819.55	1,806.18
P-7	18.50	66 inch	272.00	1,806.08	1,805.92
P-19	98.00	60 inch	2.00	1,806.18	1,806.18
P-18	108.00	60 inch	2.00	1,805.92	1,805.92
P-12	30.00	54 inch	270.00	1,856.30	1,855.54
P-11	320.00	54 inch	270.00	1,853.84	1,845.81
P-10	340.00	54 inch	270.00	1,845.81	1,837.27
P-15	146.00	54 inch	270.00	1,862.09	1,858.43
P-14	59.74	54 inch	270.00	1,858.43	1,856.93
P-13	25.26	54 inch	270.00	1,856.93	1,856.30
P-4	660.00	66 inch	274.00	1,786.09	1,767.80
P-28	55.00	60 inch	2.00	1,771.58	1,769.36
P-2	351.00	90 inch	280.00	1,739.98	1,735.51

Label	Length	Size	Discharge	Hydraulic Grade Upstream	Hydraulic Grade Downstream
P-34	61.00	36 inch	2.00	1,748.89	1,740.06
P-38	107.50	90 inch	276.00	1,751.18	1,748.34
P-36	302.50	90 inch	278.00	1,748.25	1,740.06
P-37	82.00	42 inch	2.00	1,757.14	1,748.34

| ---------- Elevations ---------- |

Label	Discharge	Ground	Upstream HGL	Downstream HGL
Outlet	280.00	1,745.00	1,735.00	1,735.00
MH-1	280.00	1,748.90	1,735.51	1,735.13
MH-2	276.00	1,763.34	1,751.27	1,751.18
MH-3	276.00	1,777.92	1,769.36	1,769.27
MH-4	274.00	1,793.47	1,786.22	1,786.09
MH-5	274.00	1,804.45	1,793.12	1,792.99
MH-6	274.00	1,813.85	1,805.92	1,803.16
0.05	272.00	1,814.21	1,806.18	1,806.08
MH-8	270.00	1,825.23	1,820.48	1,819.55
MH-9	270.00	1,841.40	1,837.27	1,837.05
MH-10	270.00	1,858.11	1,855.54	1,853.84
MH-11	270.00	1,880.00	1,863.66	1,862.09
MH-12	270.00	1,880.00	1,869.86	1,868.16
I-1	270.00	1,890.00	1,885.21	1,878.49
I-2	2.00	1,815.00	1,805.92	1,805.92
I-3	2.00	1,815.00	1,806.18	1,806.18
GB-2	270.00	1,858.00	1,856.30	1,856.30
GB-1	270.00	1,849.00	1,845.81	1,845.81
GB-4	270.00	1,880.00	1,858.43	1,858.43
GB-3	270.00	1,858.00	1,856.93	1,856.93

		Elevations	
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-4	2.00	1,777.20	1,771.78	1,771.58
I-6	2.00	1,753.45	1,749.12	1,748.89
MH-23	280.00	1,752.35	1,740.06	1,739.98
I-7	2.00	1,761.72	1,757.36	1,757.14
MH-24	278.00	1,761.70	1,748.34	1,748.25

Elapsed: 0 minute(s) 2 second(s)

```
*********************************************
     UNEVEN WEIR FLOW PROGRAM
     FORTRAN VERSION 1.0
*********************************************
PROJECT:  Pima Road 3 Basins - Deer Valley DB overflow
ENGINEER:  mcg
DATE:   7/28/1997
TIME:  11:51.46
```

```
---------------------------------------------
INPUT PARAMETERS
---------------------------------------------
STARTING WSEL:       1879.50
MAXIMUM WSEL:        1881.10
STEP SIZE:              0.05
BREADTH OF WEIR:       20.00
```

```
*********************************************
INPUT ELEVATION/STATION TABLE.
PROJECT:  Pima Road 3 Basins - Deer Valley DB overflow
DATE:   7/28/1997
TIME:  11:51.46
*********************************************
```

POINT	ELEVATION	STATION
1	1881.00	1000.00
2	1879.50	1000.10
3	1879.50	1200.10
4	1881.00	1200.20

****
WEIR COEFFICIENT TABLE
PROJECT: Pima Road 3 Basins - Deer Valley DB overflow
DATE: 7/28/1997
TIME: 11:51.46
****
REFERENCE: COE CHART - UPPER CURVE

POINT	HEAD	COEFFICIENT
1	0.00	2.50
2	0.05	2.51
3	0.10	2.52
4	0.15	2.53
5	0.20	2.53
6	0.25	2.54
7	0.30	2.55
8	0.35	2.56
9	0.40	2.57
10	0.45	2.58
11	0.50	2.58
12	0.55	2.59
13	0.60	2.60
14	0.65	2.61
15	0.70	2.62
16	0.75	2.63
17	0.80	2.63
18	0.85	2.64
19	0.90	2.65
20	0.95	2.66
21	1.00	2.67
22	1.05	2.68
23	1.10	2.68
24	1.15	2.69
25	1.20	2.70
26	1.25	2.71
27	1.30	2.72
28	1.35	2.73
29	1.40	2.73
30	1.45	2.74
31	1.50	2.75
32	1.55	2.76

****
UNEVEN WEIR FLOW PROGRAM
FORTRAN VERSION 1.0
PROJECT: Pima Road 3 Basins - Deer Valley DB overflow
DATE: 7/28/1997
TIME: 11:51.46
****

ELEVATION	DISCHARGE (CFS)
1879.50	0
1879.55	6
1879.60	16
1879.65	29
1879.70	45
1879.75	64
1879.80	84
1879.85	106
1879.90	130
1879.95	156
1880.00	183
1880.05	212
1880.10	242
1880.15	274
1880.20	307
1880.25	342
1880.30	378
1880.35	415
1880.40	453
1880.45	493
1880.50	534
1880.55	577
1880.60	620
1880.65	665
1880.70	711
1880.75	758
1880.80	807
1880.85	856
1880.90	907
1880.95	959
1881.00	1012
1881.05	1067

APPENDIX C

EAST SIDE INTERIM BUILD-OUT AND NO CLOGGING CONDITION
100-YEAR, 6-HOUR PRINTOUT (I-1)

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              MAY  1991               *
*            VERSION 4.0.1E            *
*    Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.      *
*  RUN DATE  02/25/99  TIME  08:15:49  *
****************************************
```

```
****************************************
*                                      *
*   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

```
1                                    HEC-1 INPUT                                    PAGE  1

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

    1           ID    PIMA ROAD THREE BASINS                                 File:  EX100-6.IH1
    2           ID    by  Stantec for the City of Scottsdale            Original: 08-07-97     mcg
    3           ID        Project:  28900082                             Revised: 01-20-99     mcg
    4           ID
    5           ID
    6           ID    100-YEAR, 6-HOUR STORM
    7           ID        INTERIM CONDITION:
    8           ID           NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
    9           ID           GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
   10           ID           THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
   11           ID           THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF
   12           ID           FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.
   13           ID
   14           ID        THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
   15           ID            DEI FILE NAME:  GH23FAB.H1I
   16           ID            MODEL DATE:     21 MAY 96
   17           ID
   18           ID        THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
   19           ID            WOOD/PATEL FILE NAME:  DC0721C.DAT
   20           ID            MODEL DATE:            4 JANUARY 96
   21           ID
   22           ID
                *DIAGRAM
   23           IT       5                     720
   24           IO       5
   25           JD             .01
   26           JD              .1
   27           JD              .5
   28           JD               1
   29           JD               5
   30           JD              25
                *

   31           KK   S51.1
   32           KM     RUNOFF FROM SUBBASIN 51.1
   33           KM        RAINFALL LOSSES FOR GREINER SUBBASINS 51.1 AND 49.1 ARE AREA WEIGHTED
   34           BA   1.130
   35           PH                     .84    1.53    2.46    2.75    2.94    3.31
   36           LS            73.9      12
   37           UK     300   0.037   0.130     100
   38           RK    1800   0.038   0.045  0.0161    TRAP       0      12
   39           RK   14400   0.032   0.040            TRAP      40      15
                *

   40           KK  DVDB-O
   41           KM     DETENTION BASIN AT DEER VALLEY ROAD
   42           KM     PRINCIPAL SPILLWAY:  54" CONDUIT THAT TIES INTO THE PIMA ROAD STORM DRAIN
   43           KM        STAGE-DISCHARGE RATING CURVE REFLECTS NO CLOGGING OF THE TRASHRACK
   44           KM        2 ACRE-FEET OF STORAGE FOR SEDIMENTAION
   45           KM
   46           RS       1    STOR      -1
   47           SV       0    0.54    0.96    1.18    1.68    2.09    3.72     6.3     9.8   14.25
   48           SV   19.23   24.78   30.93   34.23   37.69    41.3   45.08   49.03   57.33   61.54
   49           SQ       0       3      15      28      51      81     143     183     204     216
   50           SQ     224     232     240     243     246     248     251     253     256     259
1                                    HEC-1 INPUT                                    PAGE  2
```

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

  51          SE    1855    1856    1857    1858    1859    1860    1862    1864    1866    1868
  52          SE    1870    1872    1874    1875    1876    1877    1878    1879    1880    1881
              *
              *  R51.1
              *    DEER VALLEY BASIN OUTLET CONDUIT TO THOMPSON PEAK PARKWAY
              *    NO ROUTING THROUGH CONDUIT.
              *       L = 2820 feet
              *

  53          KK  D51.1T
  54          KM     DIVERT 100% OF FLOW TO RETRIEVE AT THOMPSON PEAK PARKWAY
  55          DT  B51.1T
  56          DI       0   10000
  57          DQ       0   10000
              *
              *
              *     ******************  BEGIN DC RANCH WATERSHED  *******************
              *
              *       THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
              *           WOOD/PATEL FILE NAME:  DC0721C.DAT
              *           MODEL DATE:            4 JANUARY 96
              *

  58          KK    52D4
  59          KM   RUNOFF FROM SUBBASIN 52D4
  60          BA    .070
  61          LS              75    14.5
  62          UK     120    .010     .15     100
  63          RK    3100    .035    .045            TRAP      30      10
              *

  64          KK   52D4R
  65          KM   ROUTE 52D4C THROUGH 52D5 TO CP 52D5C
  66          RK    1350    .033    .045            TRAP      10      10
              *

  67          KK   52D4B
  68          KM   RUNOFF FROM SUBBASIN 52D4B
  69          BA    .022
  70          LS              75      63
  71          UK     120    .010     .15     100
  72          RK    2200    .033    .045            TRAP      30      10
              *

  73          KK  52D5C1
  74          KM   COMBINE 52D4R AND 52D4B
  75          HC       2
              *

  76          KK   52D5A
  77          KM   RUNOFF FROM 52D5A
  78          BA   .0232
  79          LS              75      63
  80          UK     120    .010     .15     100
  81          RK    1300    .032    .045            TRAP      30      10
              *
```



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

  82          KK  52D5AR
  83          KM   ROUTE 52D5A THROUGH BEARDSLEY CHANNEL TO CP 52D5C2
  84          RK     400   .0143    .035            TRAP      50       4
              *

  85          KK  52D5C2
  86          KM   COMBINE 25D5C1 AND 52D5AR
  87          HC       2
              *

  88          KK   52D5R
  89          KM   ROUTE 52D5C IN BEARDSLEY CHANNEL TO CP 52C3BC2
  90          RK     240   .0143    .035            TRAP      50       4
              *

  91          KK    52C3
  92          KM   RUNOFF FROM SUBBASIN 52C3
  93          BA    .006
  94          LS              75      65
  95          UK     100     .02     .10     100
  96          RK     800    .033    .045            TRAP      30      10
              *

  97          KK   52C3R
  98          KM   ROUTE 52C3 THROUGH SUBBASIN 52C4 TO CP 52C4C1
  99          RK    1350    .034    .045            TRAP      10      10
              *

 100          KK   52C3B
 101          KM   RUNOFF FROM SUBBASIN 52C3B
 102          BA    .016
 103          LS              75      60
```

```
 104          UK     100      .02      .10      100
 105          RK    1400     .034     .045             TRAP      30      10
              *

 106          KK  2C3BC1
 107          KM   COMBINE 52C3B AND 52C3R
 108          HC       2
              *

 109          KK  2C3BC2
 110          KM   COMBINE 52C3BC1 AND 52C5R
 111          HC       2
              *

 112          KK  52C3BR
 113          KM   ROUTE 52C3BC2 IN BEARDSLEY CHANNEL TO CP 52C4C2
 114          RK     430    .0143     .035             TRAP      50       4
              *
              *
1                                          HEC-1 INPUT                                                    PAGE  4

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

 115          KK     51C     SUB
 116          KM        RUNOFF FROM SUB 51C
 117          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
 118          KM        CONDITIONS.
 119          BA   .0972
 120          LS              70       5
 121          UK     100    .0213     .10      100
 122          RK    3900    .0375     .045             TRAP      30      10
              *

 123          KK   51C1D
 124          KM   DIVERT 67 PERCENT OF 51C TO WEST (33 PERCENT TO SOUTH)
 125          DT  51C1DV
 126          DI       0   10000
 127          DQ       0    6700
              *

 128          KK   51C1R
 129          KM   ROUTE 51C1D THROUGH SUBBASIN 52C1
 130          RK    1350    .0364     .045             TRAP      10      10
              *

 131          KK    52C1
 132          KM   RUNOFF FROM SUBBASIN 52C1
 133          BA    .029
 134          LS              75    20.5
 135          UK     100     .02      .10      100
 136          RK    1350     .021     .045             TRAP      30      10
              *

 137          KK   52C1C
 138          KM   COMBINE 51C1R AND 52C1
 139          HC       2   .0611
              *

 140          KK   52C1R
 141          KM   ROUTE 52C1C THROUGH BASIN 52C2A TO CP 52C2BC
 142          RK    1500     .033     .045             TRAP      10      10
              *

 143          KK   52C2A
 144          KM   RUNOFF FROM SUBBASIN 52C2A
 145          BA    .019
 146          LS              75       2
 147          UK     100     .02      .10      100
 148          RK    1500     .033     .045             TRAP      30      10
              *

 149          KK  52C2AC
 150          KM   COMBINE 52C2A AND 52C1R
 151          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE  5

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

 152          KK   52C2B
 153          KM   RUNOFF FROM SUBBASIN 52C2B
 154          BA   .0275
 155          LS              75      11
 156          UK     100     .02      .10      100
 157          RK    2000     .030     .045             TRAP      30      10
              *

 158          KK  52C2BC
 159          KM   COMBINE 52C2B AND 52C2AC
 160          HC       2
              *

 161          KK  52C2BR
```

```
 162          KM   ROUTE 52C2BC THROUGH 52C2C TO CP 52C2CC
 163          RK    1500    .040    .045            TRAP      10      10
              *

 164          KK   52C2C
 165          KM   RUNOFF FROM SUBBASIN 52C2C
 166          BA    .014
 167          LS              75      62
 168          UK     100     .02     .10     100
 169          RK    1500     .04    .045            TRAP      30      10
              *

 170          KK  52C2CC
 171          KM   COMBINE 52C2C AND 52C2BR
 172          HC       2
              *

 173          KK   52C2R
 174          KM   ROUTE 52C2CC THROUGH SUBBASIN 52C4 TO CP 52C4C1
 175          RK    1550    .030    .045            TRAP      10      10
              *

 176          KK    52C4
 177          KM   RUNOFF FROM SUBBASIN 52C4
 178          BA    .017
 179          LS              75      60
 180          UK     100     .02     .10     100
 181          RK    1550    .030    .045            TRAP      30      10
              *

 182          KK  52C4C1
 183          KM   COMBINE 52C4 AND 52C2R
 184          HC       2
              *
1                                        HEC-1 INPUT                                          PAGE  6

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

 185          KK  52C4C2
 186          KM   COMBINE 52C4C1 AND 52C3BR
 187          HC       2
              *

 188          KK   52C4R
 189          KM   ROUTE 52C4C2 WEST IN BEARDSLEY CHANNEL TO CP 52C15C2
 190          RK     850   .0143    .035            TRAP      50       4
              *

 191          KK   52C13
 192          KM   RUNOFF FROM SUBBASIN 52C13
 193          BA    .023
 194          LS              75      31
 195          UK     100     .02     .10     100
 196          RK     950    .040    .045            TRAP      30      10
              *

 197          KK  2C13DV
 198          KM   DIVERT FIRST 40 CFS INTO STORM DRAIN; REMAINDER FLOWS OVER ROAD
 199          DT   STORM
 200          DI       0      40    1000
 201          DQ       0      40      40
              *
              * KK52C13R
              * KM ROUTE 52C13 THROUGH SUBBASIN 52C15 TO CP 52C15C1
              * RK  1800    .035    .045            TRAP      10      10
              *

 202          KK   52C15
 203          KM   RUNOFF FROM SUBBASIN 52C15
 204          BA    .046
 205          LS              75    64.4
 206          UK     100     .02     .10     100
 207          RK    2050    .036    .045            TRAP      30      10
              *

 208          KK  2C15C1
 209          KM   COMBINE 52C15 AND 52C13DV
 210          HC       2    .046
              *

 211          KK  2C15C2
 212          KM   COMBINE 52C15C1 AND 52C4R
 213          HC       2
              *

 214          KK  52C15R
 215          KM   ROUTE 52C15C2 IN BEARDSLEY CHANNEL TO CP 52C14C3
 216          RK     750   .0143    .035            TRAP      50       4
              *
1                                        HEC-1 INPUT                                          PAGE  7

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

```
217          KK  52C14A
218          KM   RUNOFF FROM SUBBASIN 52C14A
219          BA    .041
220          LS              75    67.7
221          UK     100     .02     .10     100
222          RK    2050    .031    .045            TRAP      30      10
             *

223          KK  2C14AC
224          KM   COMBINE 52C14A AND 52C15R
225          HC       2
             *

226          KK  2C14AR
227          KM   ROUTE 52C14AC IN BEARDSLEY CHANNEL TO CP 52C14BC2
228          RK     380   .0143    .035            TRAP      50       4
             *
             *

229          KK  51C1DV
230          KM   RETRIEVE DIVERTED FLOW
231          DR  51C1DV
             *

232          KK   51C2D
233          KM   DIVERT 27 PERCENT OF 51C1DV TO WEST (73 PERCENT TO SOUTH)
234          DT  51C2DV
235          DI       0   10000
236          DQ       0    2700
             *

237          KK   51C2R
238          KM   ROUTE 51C2D THROUGH SUBBASIN 52C5 TO CP 52C5C
239          RK     700    .030    .045            TRAP      10      10
             *

240          KK    52C5
241          KM   RUNOFF FROM SUBBASIN 52C5
242          BA    .016
243          LS              75      27
244          UK     100     .02     .10     100
245          RK    1200     .03    .045            TRAP      30      10
             *

246          KK   52C5C
247          KM   COMBINE 51C2R AND 52C5
248          HC       2   .0635
             *
```



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

249          KK   52C5R
250          KM   ROUTE 52C5C THROUGH SUBBASIN 52C6 TO CP 52C6C
251          RK    3100    .035    .045            TRAP      10      10
             *

252          KK    52C6
253          KM   RUNOFF FROM SUBBASIN 52C6
254          BA    .036
255          LS              75    31.4
256          UK     100     .02     .10     100
257          RK    3100    .035    .045            TRAP      30      10
             *

258          KK   52C6C
259          KM   COMBINE 52C5R AND 52C6
260          HC       2
             *

261          KK   52C6R
262          KM   ROUTE 52C6C THROUGH SUBBASIN 52C10 TO CP 52C10C2
263          RK     450    .032    .045            TRAP      10      10
             *

264          KK  51C2DV
265          KM   RETRIEVE 52C2DV
266          DR  51C2DV
             *

267          KK   51C3R
268          KM   ROUTE 52C2DV THROUGH SUBBASIN 52C7 TO CP 52C7C
269          RK     700    .040    .045            TRAP      10      10
             *

270          KK     51B     SUB
271          KM        RUNOFF FROM SUB 51B
272          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
273          KM        CONDITIONS.
274          BA   .5711
275          LS              70       5
276          UK     100   .0213     .10     100
277          RK    8900   .0300    .045            TRAP      50      25
             *
```

```
 278          KK   51B1D
 279          KM   DIVERT 92 PERCENT OF SUBBASIN 51B TO WEST (8 PERCENT TO SOUTH)
 280          DT  51B1DV
 281          DI       0   10000
 282          DQ       0    9200
              *
```



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

 283          KK   51B1R
 284          KM    ROUTE 51B1D THROUGH SUBBASIN 52C7 TO CP 52C7C
 285          RK     450     .04    .045            TRAP      10      10
              *

 286          KK    52C7
 287          KM   RUNOFF FROM SUBBASIN 52C7
 288          BA    .006
 289          LS              75      27
 290          UK     100     .02     .10     100
 291          RK     550     .04    .045            TRAP      30      10
              *

 292          KK   52C7C
 293          KM   COMBINE 51B1R, 51C3R, AND 52C7
 294          HC       3   .0693
              *

 295          KK   52C7R
 296          KM   ROUTE 52C7C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 297          RK    1550    .036    .045            TRAP      10      10
              *

 298          KK  51B1DV
 299          KM   RETRIEVE DIVERTED FLOW 51B1DV
 300          DR  51B1DV
              *

 301          KK   51B2D
 302          KM   DIVERT 84 PERCENT OF 51B1DV TO WEST (16 PERCENT TO SOUTH)
 303          DT  51B2DV
 304          DI       0   10000
 305          DQ       0    8400
              *

 306          KK   51B2R
 307          KM   ROUTE 51B2D THROUGH SUBBASIN 52C8 TO CP 52C8C
 308          RK     750    .034    .045            TRAP      10      10
              *

 309          KK    52C8
 310          KM   RUNOFF FROM SUBBASIN 52C8
 311          BA    .008
 312          LS              75      27
 313          UK     100     .02     .10     100
 314          RK     750    .034    .045            TRAP      30      10
              *

 315          KK   52C8C
 316          KM   COMBINE 51B2R AND 52C8
 317          HC       2   .4493
              *
```



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

 318          KK   52C8R
 319          KM   ROUTE 52C8C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 320          RK    1100    .036    .045            TRAP      10      10
              *

 321          KK  52C9C1
 322          KM   COMBINE 52C7R AND 52C8R
 323          HC       2
              *

 324          KK  52C9R1
 325          KM   ROUTE 52C9C1 THROUGH SUBBASIN 52C9 TO CP 52C9C2
 326          RK    1050    .036    .045            TRAP      10      10
              *

 327          KK    52C9
 328          KM   RUNOFF FROM SUBBASIN 52C9
 329          BA    .069
 330          LS              75   31.85
 331          UK     100     .02     .10     100
 332          RK    3150    .036    .045            TRAP      30      10
              *

 333          KK  52C9C2
 334          KM   COMBINE 52C9R1 AND 52C9
 335          HC       2
```

```
                 *
 336             KK  52C9R2
 337             KM   ROUTE 52C9C2 THROUGH SUBBASIN 52C10 TO CP 52C10C1
 338             RK     500    .032    .045            TRAP      10      10
                 *

 339             KK  2C10C1
 340             KM   COMBINE 52C9R2 AND 52C6R
 341             HC       2
                 *

 342             KK  2C10R1
 343             KM   ROUTE 52C10C1 THROUGH SUBBASIN 52C10 TO CP 52C10C2
 344             RK     300    .032    .045            TRAP      10      10
                 *

 345             KK   52C10
 346             KM   RUNOFF FROM SUBBASIN 52C10
 347             BA    .014
 348             LS              75    7.85
 349             UK     100     .02     .10     100
 350             RK     800    .032    .045            TRAP      30      10
                 *
1                                          HEC-1 INPUT                                                    PAGE 11

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

 351             KK  2C10C2
 352             KM   COMBINE 52C10R1 AND 52C10
 353             HC       2
                 *

 354             KK   52C11
 355             KM   RUNOFF FROM SUBBASIN 52C11
 356             BA   .0425
 357             LS              75      27
 358             UK     100     .02     .10     100
 359             RK    2800    .031    .045            TRAP      30      10
                 *

 360             KK  2C11R1
 361             KM   PIPE ROUTE 52C11 TO CP 52C11C
 362             RK     650     .02    .045            CIRC       3
                 *

 363             KK  52C13D
 364             KM   RETRIEVE DIVERTED FLOW
 365             DR   STORM
                 *

 366             KK  52C11C
 367             KM   COMBINE 52C13D AND 52C11R1
 368             HC       2   .0655
                 *

 369             KK  2C11CR
 370             KM   PIPE ROUTE 52C11C TO CP 52C11C2
 371             RK     750     .02    .045            CIRC       3
                 *

 372             KK  2C11C2
 373             KM   COMBINE 52C11CR AND 52C10C2
 374             HC       2
                 *

 375             KK  2C11R2
 376             KM   ROUTE 52C11C2 THROUGH SUBBASIN 52C12 TO CP 52C12C
 377             RK     700     .03    .045            TRAP      10      10
                 *

 378             KK   52C12
 379             KM   RUNOFF FROM SUBBASIN 52C12
 380             BA    .023
 381             LS              75      85
 382             UK     100     .02     .10     100
 383             RK     900     .03    .045            TRAP      30      10
                 *
1                                          HEC-1 INPUT                                                    PAGE 12

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

 384             KK  52C12C
 385             KM   COMBINE 52C11R2 AND 52C12
 386             HC       2
                 *

 387             KK  52C12R
 388             KM   ROUTE 52C12C THROUGH SUBBASIN 52C14 TO CP 52C14C1
 389             RK    1150    .029    .045            TRAP      10      10
                 *

 390             KK  52C14B
```

```
 391          KM   RUNOFF FROM SUBBASIN 52C14B
 392          BA    .021
 393          LS              75      60
 394          UK     100     .02     .10     100
 395          RK    1250    .029    .045            TRAP      30      10
              *

 396          KK  C14BC1
 397          KM   COMBINE 52C14B AND 52C12R
 398          HC       2
              *

 399          KK  C14BC2
 400          KM   COMBINE 52C14BC1 AND 52C14AR
 401          HC       2
              *

 402          KK  52C14R
 403          KM   ROUTE 52C14C3 WEST IN BEARDSLEY CHANNEL TO CP 52B5C2
 404          RK     600   .0143    .035            TRAP      50       4
              *

 405          KK  51B2DV
 406          KM   RETRIEVE DIVERTED FLOW
 407          DR  51B2DV
              *

 408          KK   51B3D
 409          KM   DIVERT 84 PERCENT OF 51B2DV TO WEST (16 PERCENT TO SOUTH)
 410          DT  51B3DV
 411          DI       0   10000
 412          DQ       0    8400
              *

 413          KK   51B3R
 414          KM   ROUTE 51B3D THROUGH SUBBASIN 52B1 TO CP 52B1C
 415          RK     600    .039    .045            TRAP      10      10
              *
```



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

 416          KK    52B1
 417          KM   RUNOFF FROM SUBBASIN 52B1
 418          BA    .003
 419          LS              75      27
 420          UK     100     .02     .10     100
 421          RK     600    .039    .045            TRAP      30      10
              *

 422          KK   52B1C
 423          KM   COMBINE 51B3R AND 52B1
 424          HC       2   .0736
              *

 425          KK   52B1R
 426          KM   ROUTE 52B1C THROUGH SUBBASIN 52B2 TO CP 52B2C1
 427          RK     930    .037    .045            TRAP      10      10
              *

 428          KK  51B3DV
 429          KM   RETRIEVE DIVERTED FLOW 51B3DV
 430          DR  51B3DV
              *

 431          KK   51B4D
 432          KM   DIVERT 82 PERCENT OF 51B3DV TO WEST (18 PERCENT TO SOUTH)
 433          DT  51B4DV
 434          DI       0   10000
 435          DQ       0    8200
              *

 436          KK  51B4R1
 437          KM   ROUTE 51B4D THROUGH SUBBASIN 52B2 TO CP 52B2C1
 438          RK    1350    .037    .045            TRAP      10      10
              *

 439          KK  52B2C1
 440          KM   COMBINE 51B4R1 AND 52B1R
 441          HC       2   .1403
              *

 442          KK  52B2R1
 443          KM   ROUTE 52B2R1 THROUGH SUBBASIN 52B2 TO CP 52B2C2
 444          RK    1000    .037    .045            TRAP      10      10
              *

 445          KK    52B2
 446          KM   RUNOFF FROM SUBBASIN 52B2
 447          BA    .032
 448          LS              75      17
 449          UK     100     .02     .10     100
 450          RK    2350    .037    .045            TRAP      30      10
              *
```

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

 451          KK  52B2C2
 452          KM   COMBINE 52B2 AND 52B2R1
 453          HC       2
              *

 454          KK  52B2R2
 455          KM   ROUTE 52B2C2 THROUGH SUBBASIN 52B3 TO CP 52B3C2
 456          RK    850    .026    .045            TRAP      10      10
              *

 457          KK  52B3R1
 458          KM   ROUTE 52B3C1 THROUGH SUBBASIN 52B3 TO CP 52B3C2
 459          RK    500    .024    .045            TRAP      10      10
              *

 460          KK   52B3
 461          KM   RUNOFF FROM SUBBASIN 52B3
 462          BA    .062
 463          LS              75    31.8
 464          UK    100     .02     .10     100
 465          RK   3450    .030    .045            TRAP      30      10
              *

 466          KK  52B3C2
 467          KM   COMBINE 52B3 AND 52B3R1
 468          HC       2
              *

 469          KK  52B3R2
 470          KM   ROUTE 52B3C2 THROUGH 52B4 TO CP 52B4C
 471          RK   1700    .024    .045            TRAP      10      10
              *

 472          KK   52B4
 473          KM   RUNOFF FROM SUBBASIN 52B4
 474          BA    .026
 475          LS              75      62
 476          UK    100     .02     .10     100
 477          RK   1700    .024    .045            TRAP      30      10
              *

 478          KK   52B4C
 479          KM   COMBINE 52B4 AND 52B3R2
 480          HC       2
              *

 481          KK   52B4R
 482          KM   ROUTE 52B4C THROUGH SUBBASIN 52B5 TO CP 52B5C1
 483          RK    550    .027    .045            TRAP      10      10
              *
```



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

 484          KK   52B5
 485          KM   RUNOFF FROM SUBBASIN 52B5
 486          BA    .021
 487          LS              75    56.9
 488          UK    100     .02     .10     100
 489          RK   1400     .03    .045            TRAP      30      10
              *

 490          KK  52B5C1
 491          KM   COMBINE 52B5 AND 52B4R
 492          HC       2
              *

 493          KK  52B5C2
 494          KM   COMBINE 52B5C1 AND 52C14R
 495          HC       2
              *

 496          KK   52B5R
 497          KM   ROUTE 52B5C2 IN BEARDSLEY CHANNEL TO CP 52B7C2
 498          RK   1100   .0143    .035            TRAP      50       4
              *

 499          KK  51B4DV
 500          KM   RETRIEVE DIVERTED FLOW 51B4DV
 501          DR  51B4DV
              *

 502          KK   51B5D
 503          KM   DIVERT 68 PERCENT OF 51B4DV TO WEST (32 PERCENT TO SOUTH)
 504          DT  51B5DV
 505          DI       0   10000
 506          DQ       0    6800
              *
```

```
 507          KK   51B5R
 508          KM   ROUTE 51B5D THROUGH SUBBASIN 52B6 TO CP 51B7C
 509          RK    1250    .035    .045            TRAP      10      10
              *

 510          KK  51B5DV
 511          KM   RETRIEVE DIVERTED FLOW
 512          DR  51B5DV
              *

 513          KK   51B6D
 514          KM   DIVERT 53 PERCENT OF 51B5DV TO WEST (47 PERCENT TO SOUTH)
 515          DT  51B6DV
 516          DI       0   10000
 517          DQ       0    5300
              *
1                                          HEC-1 INPUT                                                    PAGE 16

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

 518          KK   51B6R
 519          KM   ROUTE 51B6D THROUGH SUBBASIN 52B6 TO CP 51B7C
 520          RK     925    .033    .045            TRAP      10      10
              *

 521          KK  51B6DV
 522          KM   RETRIEVE DIVERTED FLOW 51B6DV
 523          DR  51B6DV
              *

 524          KK   51B7D
 525          KM   DIVERT 58 PERCENT OF 51B6DV TO WEST (42 PERCENT TO SOUTH)
 526          DT  51B7DV
 527          DI       0   10000
 528          DQ       0    5800
              *

 529          KK  51B7R1
 530          KM   ROUTE 51B7D THROUGH SUBBASIN 52B6 TO CP 51B7C
 531          RK     530    .033    .045            TRAP      10      10
              *

 532          KK   51B7C
 533          KM   COMBINE 51B7R1, 51B5R, AND 51B6R
 534          HC       3   .2404
              *

 535          KK  51B7R2
 536          KM   ROUTE 51B7C THROUGH SUBBASIN 52B6 TO CP 52B6C
 537          RK    2300    .033    .045            TRAP      10      10
              *

 538          KK    52B6
 539          KM   RUNOFF FROM SUBBASIN 52B6
 540          BA    .096
 541          LS              75   13.55
 542          UK     100     .02     .10     100
 543          RK    3200    .033    .045            TRAP      30      10
              *

 544          KK   52B6C
 545          KM   COMBINE 51B7R2 AND 52B6
 546          HC       2
              *

 547          KK   52B6R
 548          KM   ROUTE 52B6C THROUGH SUBBASIN 52B7 TO CP 52B7C1
 549          RK    2750    .028    .045            TRAP      10      10
              *
1                                          HEC-1 INPUT                                                    PAGE 17

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

 550          KK    52B7
 551          KM   RUNOFF FROM SUBBASIN 52B7
 552          BA    .080
 553          LS              75   78.45
 554          UK     100     .02     .10     100
 555          RK    2750    .028    .045            TRAP      30      10
              *

 556          KK  52B7C1
 557          KM   COMBINE 52B7 AND 52B6R
 558          HC       2
              *

 559          KK  52B7C2
 560          KM   COMBINE 52B7C1 AND 52B5R
 561          HC       2
              *

 562          KK    52A2
 563          KM   RUNOFF FROM SUBBASIN 52A2
```

```
564          BA    .065
565          LS              75    88.8
566          UK     100     .02     .10     100
567          RK    2900    .023    .045            TRAP      30      10
             *

568          KK  52A2C2
569          KM   COMBINE 52B7C2 AND 52A2
570          HC       2    1.62
             *

571          KK  51B7DV
572          KM   RETRIEVE DIVERTED FLOW 51B7DV
573          DR  51B7DV
             *

574          KK   51B8R
575          KM   ROUTE 51B7DV THROUGH SUBBASIN 52A1 TO CP 52A1C
576          RK    3400    .033    .045            TRAP      10      10
             *

577          KK    52A1
578          KM   RUNOFF FROM SUBBASIN 52A1
579          BA    .130
580          LS              75   32.25
581          UK     100     .02     .10     100
582          RK    3400    .033    .045            TRAP      30      10
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

583          KK   52A1C
584          KM   COMBINE 52A1 AND 51B8R
585          HC       2
             *
             *
             *     *******************  END DC RANCH WATERSHED  ********************
             *
             *
             *     ******************  BEGIN GVSCE MODIFICATIONS  ******************
             *

586          KK   D51.1
587          KM   RETRIEVE DIVERTED FLOW
588          DR  B51.1T
             *

589          KK    C52A
590          KM     COMBINE ROUTED HYDROGRAPH FROM C51.1 WITH HYDROGRAPH FROM C52A1C AT
591          KM     THOMPSON PEAK PARKWAY
592          HC       2  1.2600
             *
             *   R52A
             *    DEER VALLEY BASIN OUTLET CONDUIT TO JUNCTION AT SIERRA PINTA CHANNEL
             *    NO ROUTING IN CONDUIT.
             *       L = 3130 feet
             *

593          KK     C52
594          KM     COMBINE ROUTED HYDROGRAPH FROM C52A WITH HYDROGRAPH FROM C52A2C AT
595          KM     BEARDSLEY ROAD
596          HC       2  2.9025
             *

597          KK     R52
598          KM     LAG THE HYDROGRAPH BY ONE TIME STEP TO ACCOUNT FOR TRAVEL TIME IN THE
599          KM     CONDUIT.
600          KM        ASSUME WAVE CELERITY = 15-20 fps AND TOTAL LENGTH OF 4050'
601          RT                        1
             *
             *

602          KK    D52T
603          KM     DIVERT 100% OF FLOW TO RETRIEVE JUST U/S OF THE PIMA FREEWAY EAST-BASIN
604          DT    B52T
605          DI       0   10000
606          DQ       0   10000
             *

607          KK   CLEAR
608          KM     CLEAR HYDROGRAPHS FROM STACK
609          HC       2
             *
             *
             *     ******************  BEGIN GRAYHAWK WATERSHED  *******************
             *
             *       THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
             *           DEI FILE NAME:  GH23FAB.H1I
             *           MODEL DATE:     21 MAY 96
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
610          KK      1B
611          KM        RUNOFF FROM INTERIM SUBBASIN 1B
612          BA  0.3573
613          LS            73.5      15
614          UK     300    0.02    0.13     100
615          RK    1420    0.02   0.045   0.015    TRAP       5      10
616          RK    7000    0.02    0.04            TRAP      10       5
             *

617          KK   37AE1      CP
618          KM        ROUTE NON-DIVERTED FLOW FROM DIV 37AE THROUGH SUB 5N.  THIS IS A
619          KM        PRELIMINARY CHANNEL CONFIGURATION FOR THE GOLF COURSE CHANNEL.
620          RS       1    FLOW
621          RC    .055    .045    .055     800    .025
622          RX       0      16      26      30      40      44      54      70
623          RY       6       2       2       0       0       2       2       6
             *

624          KK   SUB5N
625          KM        RUNOFF FROM SUBBASIN 5 IN NORTH 18 MODEL.
626          BA   0.029
627          LS             77      18
628          UK    100    .013     .15     100
629          RK   1000   0.005    .018    .015    TRAP      50      20
630          RK    500    .015    .025            TRAP      10       4
             *

631          KK    CP5N
632          KM        ADD HYDROGRAPHS AT CP5N
633          HC       2
             *

634          KK   RET5N
635          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 5.  18" PIPE OUTFLOW WILL
636          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
637          RS       1    STOR       0       0
638          SV       0     .04     .33     .93     1.8    2.35    3.16     4.2     6.1
639          SQ       0       8      10      12      15      17     102     191     668
640          SE    1797    1798    1800    1802    1804    1805    1806    1807    1808
             *

641          KK   R6N.1
642          KM        ROUTE FLOW FROM CP5 TO CP6 IN NORTH 18 MODEL
643          KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
644          KM        CHANNEL.
645          RS       1    FLOW
646          RC    .055    .045    .055    2200    .025
647          RX       0      16      26      30      40      44      54      70
648          RY       6       2       2       0       0       2       2       6
             *
```



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

649          KK   SUB6B
650          KM        RUNOFF FROM WEST PORTION OF EXISTING SUB6N ADJACENT TO CHANNEL
651          BA    .032
652          LS             81       0
653          UK    200    .025     .15     100
654          RK   1300    .015    .025            TRAP      10       4
             *

655          KK    SR6B
656          KM        ROUTE FLOW THROUGH RETENTION BASIN IN DRIVING RANGE CHANNEL
657          RS       1    STOR       0       0
658          SV       0     .17     .57    1.12    1.78
659          SQ       0       8      10     120     380
660          SE    1772    1773    1774    1775    1776
             *

661          KK   CP6.1
662          KM        ADD HYDROGRAPHS AT CP6.1
663          HC       2
             *

664          KK   SUB1N
665          KM        RUNOFF FROM SUBBASIN 1N
666          BA    .019
667          LS             77      18
668          UK    100    .013     .15     100
669          RK   1470   .0204    .018            TRAP      50      20
             *

670          KK    R2NA
671          KM        ROUTE FLOW FROM CP1 TO CP2NA
672          RS       1    FLOW
673          RC     .03     .03     .03     400    .025
674          RX       0       8      13      17      22      26      31      39
675          RY       4       2       2       0       0       2       2       4
             *

676          KK  SUB2NA
```

```
677          KM        RUNOFF FROM SUBBASIN 2NA
678          BA    .015
679          LS              81       0
680          UK     150    .013     .15     100
681          RK    1050   .0215    .025            TRAP      20       6
             *

682          KK   CP2NA
683          KM        ADD HYDROGRAPHS AT CP2NA
684          HC       2
             *
1                                        HEC-1 INPUT                                                    PAGE 21

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


685          KK   SR2NA
686          KM        ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NA
687          RS       1    STOR       0       0
688          SV       0    .076    .291    .708     1.2
689          SQ       0       0       0       0     160
690          SE    1772    1773    1774    1775    1776
             *

691          KK    R2NB
692          KM        ROUTE FLOW FROM CP2NA TO CP2NB
693          RS       1    FLOW
694          RC     .03     .03     .03    1050    .015
695          RX       0       8      13      17      22      26      31      39
696          RY       4       2       2       0       0       2       2       4
             *

697          KK  SUB2NB
698          KM        RUNOFF FROM SUBBASIN 2NB
699          BA     .03
700          LS              77      53
701          UK     150    .013     .15     100
702          RK    1200    .015    .025            TRAP      20      50
             *

703          KK   CP2NB
704          KM        ADD HYDROGRAPHS AT CP2NB
705          HC       2
             *

706          KK   SR2NB
707          KM        STORAGE ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NB
708          RS       1    STOR       0       0
709          SV       0     .19     .69    1.66    3.23     4.5
710          SQ       0       2       8      12      17     170
711          SE    1796    1798    1800    1802    1804    1805
             *

712          KK   RCP4N
713          KM        ROUTE FLOW FROM CP2NB TO CP4N
714          RS       1    FLOW
715          RC     .03     .03     .03     740    .018
716          RX       0       8      13      17      22      26      31      39
717          RY       4       2       2       0       0       2       2       4
             *

718          KK   SUB6N
719          KM        RUNOFF FROM SUBBASIN 6 IN NORTH 18 MODEL.  TO LAKE NORTH OF CLUBHOUSE.
720          BA    .049
721          LS              81       0
722          UK     200    .025     .15     100
723          RK    1300    .015    .025            TRAP      10       4
             *
1                                        HEC-1 INPUT                                                    PAGE 22

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


724          KK   RET6N
725          KM        RETENTION ROUTING THROUGH LAKE AT HOLE 18, NORTH COURSE.
726          RS       1    STOR
727          SV       0    3.01    6.64   10.75   13.09   15.90
728          SQ       0       0       0      10      26     100
729          SE    1782    1784    1786    1788    1789    1790
             *

730          KK  RCP4N1
731          KM        ROUTE FLOW FROM CP6N TO CP4N
732          RS       1    FLOW
733          RC     .03     .03     .03     550    .018
734          RX       0       8      13      17      22      26      31      39
735          RY       4       2       2       0       0       2       2       4
             *

736          KK  CP4N.1
737          KM        ADD HYDROGRAPHS AT CP4N.1
738          HC       2
             *

739          KK   SUB3N
```

```
 740          KM        RUNOFF FROM SUBBASIN 3N, NORTH 18 MODEL
 741          BA    .027
 742          LS              81       0
 743          UK     100      .02     .15     100
 744          RK    2800   0.0207    .025            TRAP      10       4
              *

 745          KK   RET3N
 746          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 3.  18" PIPE OUTFLOW WILL
 747          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
 748          RS       1    STOR       0       0
 749          SV       0    1.73    8.97   13.32   15.74
 750          SQ       0       4       7       9      11
 751          SE    1793    1795    1800    1803    1804
              *

 752          KK     R4N
 753          KM        ROUTE FLOW FROM CP3N TO CP4N IN NORTH MODEL
 754          RS       1    FLOW
 755          RC    .035    .035    .035     950    .018
 756          RX       0       8      13      17      22      26      31      39
 757          RY       4       2       2       0       0       2       2       4
              *

 758          KK  CP4N.2
 759          KM        ADD HYDROGRAPHS AT CPN.2
 760          HC       2
              *
```

1 HEC-1 INPUT PAGE 23

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

 761          KK   SUB4N
 762          KM        RUNOFF FROM SUBBASIN 4N.
 763          BA    .032
 764          LS              77      18
 765          UK     100    .015     .15     100
 766          RK    1200   0.007    .018            TRAP      50      20
              *

 767          KK    CP4N
 768          KM        ADD HYDROGRAPHS AT CP4N
 769          HC       2
              *

 770          KK     R6N
 771          KM        ROUTE FLOW FROM CP4N TO CP6N ALONG THOMPSON PEAK PKWY AT CLUBHOUSE
 772          RS       1    FLOW
 773          RC    .045    .035    .045     750    .025
 774          RX       0       8      13      17      22      26      31      39
 775          RY       4       2       2       0       0       2       2       4
              *

 776          KK   SUB6A
 777          KM        RUNOFF FROM SUBBASIN 6A (CLUBHOUSE AREA NORTH OF THOMPSON PEAK PKWY).
 778          BA    .013
 779          LS              83      68
 780          UK     100    .015     .12     100
 781          RK     800     .01    .025            TRAP       2       3
              *

 782          KK   CP6.2
 783          KM        ADD HYDROGRAPHS AT CP6.2
 784          HC       2
              *

 785          KK    CP6N
 786          KM        ADD HYDROGRAPHS AT CP6N
 787          HC       2
              *
              *      ABOVE DISCHARGE FROM NORTH 18 THROUGH BRIDGE AT TPP STATION 103+45
              *

 788          KK   RCP6N
 789          KM        ROUTE FLOW FROM CP6N TO CP3C
 790          RS       1    FLOW
 791          RC    .045    .035    .045     300    .015
 792          RX       0       8      13      17      37      45      51      59
 793          RY       4       2       2       0       0       2       2       4
              *
```

1 HEC-1 INPUT PAGE 24

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

 794          KK   SUB3C
 795          KM        RUNOFF FROM SUBBASIN 3C, SOUTH COURSE AT MAINTENANCE FACILITY.
 796          BA   .0104
 797          LS              77      68
 798          UK     100    .025     .02     100
 799          RK     600    .015    .035            TRAP      50      20
              *

 800          KK    CP3C
```

```
801          KM        COMBINE NORTH COURSE HYDROGRAPH WITH FIRST SOUTH COURSE HYDROGRAPH
802          HC       2
             *

803          KK     R3C
804          KM        ROUTE FLOW FROM SUB3C TO CP3 THROUGH GC1018
805          KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
806          KM        CHANNEL.
807          RS       1    FLOW
808          RC    .055    .045    .055    2050    .025
809          RX       0      20      30      40      60      70      80     100
810          RY    1650    1746    1744    1742    1742    1744    1746    1750
             *

811          KK  GC1018
812          KM        RUNOFF FROM HOLES NO. 10, 18 AND DRIVING RANGE THAT CONTRIBUTE TO WASH
813          BA    .044
814          LS              81       0
815          UK     200    .025     .15     100
816          RK    1800   .0233    .025             TRAP      10       4
             *

817          KK   GC1-9
818          KM        RUNOFF FROM GOLF COURSE HOLES 1 & 9 CONTRIBUTING TO WASH
819          BA    .026
820          LS              81       0
821          UK     200    .025     .15     100
822          RK    2110    .022    .025             TRAP      10       4
             *

823          KK   SUB3S
824          KM        RUNOFF FROM SUB BASIN 3 SOUTH COURSE
825          BA   .0102
826          LS              77      53
827          UK     100    .010     .15     100
828          RK     930    .016    .025             TRAP      50      20
             *

829          KK    CP3S
830          KM        COMBINE HYDROGRAPHS AT CP3 SOUTH COURSE
831          HC       4
             *
```

1 HEC-1 INPUT PAGE 25

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

832          KK    RT3S
833          KM        ROUTE FLOW FROM CP3S TO CPGC28
834          RS       1    FLOW       0       0
835          RC    .055    .045    .055     900    .023
836          RX       0      20      30      40      60      70      80     100
837          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *

838          KK   SUB4S
839          KM        RUNOFF FROM SUB BASIN 4 SOUTH COURSE
840          BA   .0273
841          LS              77      53
842          UK     100    .010     .15     100
843          RK    1780    .018    .015             TRAP      50      20
             *

844          KK    RT4S
845          KM        ROUTE FLOW FROM CP4S TO CPGC28
846          RS       1    FLOW       0       0
847          RC    .035    .035    .035     650    .015
848          RX       0      20      30      40      45      55      65      75
849          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *

850          KK   GC2-8
851          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES NO. 2 AND 8
852          BA    .014
853          LS              81       0
854          UK     200    .025     .15     100
855          RK     980    .016    .025             TRAP      10       4
             *

856          KK  1PGC28
857          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
858          HC       3
             *

859          KK  SUB3D3
860          KM        RUNOFF FROM GRAYHAWK ROAD SOUTH OF THOMPOSON PEAK
861          BA    .014
862          LS              81       0
863          UK      50    .015      .1     100
864          RK    2450    .016    .025             TRAP       5       4
             *

865          KK  CPGC28
866          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
867          HC       2
```

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

 868            KK  SRGC28
 869            KM        STORAGE THRU DETENTION BASIN ON HOLES 2 AND 8.
 870            RS       1    STOR       0       0
 871            SV       0    .018    .085     .22      .5     1.0     1.7    2.68     3.9
 872            SE    1706    1707    1708    1709    1710    1711    1712    1713    1714
 873            SQ       0      10      18      20      30     108     324     651    1070
                *

 874            KK    RT7S
 875            KM        ROUTE FLOW FROM SRGC28 TO CP7S
 876            RS       1    STOR       0       0
 877            RC    .055    .045    .055    1700   .0187
 878            RX       0      20      30      40      60      70      80     100
 879            RY    1750    1746    1744    1742    1742    1744    1746    1750
                *

 880            KK     GC7
 881            KM        RUNOFF FROM SOUTH GOLF COURSE HOLE NO. 7
 882            BA   .0134
 883            LS              81       0
 884            UK     200    .025     .15     100
 885            RK    1380    .020    .025            TRAP      10       4
                *

 886            KK    CP7S
 887            KM        ADD HYDROGRAPHS AT CP7S ON SOUTH COURSE
 888            HC       2  0.7626
                *

 889            KK    D7ST
 890            KM        D7ST IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
 891            KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
 892            KM
 893            KM        DIVERT 100% OF FLOW
 894            DT    B7ST
 895            DI       0   10000
 896            DQ       0   10000
                *

 897            KK   CLEAR
 898            KM        CLEAR HYDROGRAPHS FROM THE STACK.
 899            HC       2
                *
                *
                * THIS PORTION OF MODEL TAKEN FROM,"DRAINAGE REPORT FOR VILLAGE 3 - PHASE 1",
                * APPROVED BY THE CITY OF SCOTTSDALE 7-19-95.  MODIFIED TO ACCOUNT FOR ASBUILT
                * CONDITION
                *
                *
                *
                *
```



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

 900            KK  SUB3D1
 901            KM        RUNOFF FROM SUBBASIN 3D1, PARCEL 3D.
 902            BA   .0088
 903            LS              77       34
 904            UD     .06
                *

 905            KK   RD1B1
 906            KM        FOUTE FLOW FROM 3D1 TO 3B1.
 907            RS       1    FLOW      -1
 908            RC    0.03    0.03    0.03    1250    .015
 909            RX       0     0.5       1       7      12      19    19.5      20
 910            RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
                *

 911            KK  SUB3B1
 912            KM        RUNOFF FROM SUBBASIN 3B1, PARCEL 3B.
 913            BA   .0137
 914            LS              77       47
 915            UD     .06
                *

 916            KK   CP3B1
 917            KM        ADD HYDROGRAGHS AT CP3B1
 918            HC       2
                *

 919            KK   RB13F
 920            KM        ROUTE FLOW FROM 3B1 TO SUB3F
 921            RS       1    FLOW      -1
 922            RC    0.03    0.03    0.03    2150    .015
 923            RX       0     0.5       1       7      17      24    24.5      25
 924            RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
```

```
                *

925             KK   SUB3F
926             KM        RUNOFF FROM SUBBASIN 3F, PARCEL 3F, SOUTH COURSE MODEL.
927             BA   .0344
928             LS              77      68
929             UK    100     .025     .15     100
930             RK   1000     .015    .025            TRAP     100      20
                *

931             KK    CP3F
932             KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3F ALONG THE POWER CORRIDOR
933             HC       2
                *

934             KK  SUB3B2
935             KM        RUNOFF FROM SUBBASIN 3B2, PARCEL 3B.
936             BA   .0246
937             LS              77      40
938             UD     .10
                *
1                                                HEC-1 INPUT                                                PAGE 28

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

939             KK   RB2E1
940             KM        1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
941             RS       1    FLOW      -1
942             RC    0.03    0.03    0.03     800    0.02
943             RX       0     0.5       1       7      17      24    24.5      25
944             RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
                *

945             KK   RB2E2
946             KM       SECOND 1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
947             RS       1    FLOW      -1
948             RC    0.03    0.03    0.03     600    .015
949             RX       0     0.5       1       7      17      24    24.5      25
950             RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
                *

951             KK  SUB3E1
952             KM        RUNOFF FROM SUBBASIN 3E1, PARCEL 3E.
953             BA   .0246
954             LS              77      40
955             UD     .10
                *

956             KK  1CPE31
957             KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E1 ALONG THE POWER CORRIDOR
958             HC       2
                *

959             KK  SUB3D2
960             KM        RUNOFF FROM SUBBASIN 3D2, PARCEL 3D.
961             BA    .022
962             LS              77      35
963             UD     .08
                *

964             KK   RD2E2
965             KM        ROUTE EXCESS FROM 3D2 TO CP3E2
966             RS       1    FLOW      -1
967             RC    0.03    0.03    0.03    1200   .0216
968             RX       0     0.5       1       7      17      24    24.5      25
969             RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
                *

970             KK  SUB3E2
971             KM        RUNOFF FROM SUBBASIN 3E2, PARCEL 3E.
972             BA    .012
973             LS              77      35
974             UD     .06
                *
1                                                HEC-1 INPUT                                                PAGE 29

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

975             KK   CP3E2
976             KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E2 ALONG THE POWER CORRIDOR
977             HC       2
                *

978             KK     PC3
979             KM        PC3 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
980             KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
981             KM
982             KM        RUNOFF FROM SUBBASIN PC3.
983             BA  0.0434
984             LS              77      10
985             UK     300     .015     .15     100
986             RK    2200      .01     .03            TRAP      30       4
                *
```

```
 987          KK   CPC3
 988          KM        CPC3 IS A CONCENTRATION POINT ADDED BY GVSCE TO ESTIMATE THE INFLOW TO
 989          KM        THE POWER LINE CHANNEL AT THE HAYDEN ROAD CROSSING.
 990          KM
 991          KM        COMBINE ROUTED HYDROGRAPH FROM SRPC2 W/HYDROGRAPHS FROM CP3E1, CP3E2 AND
 992          KM        CP3F AND RUNOFF FROM PC3.
 993          HC       4  0.1835
              *

 994          KK   DPC3T
 995          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
 996          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
 997          KM
 998          KM        DIVERT 100% OF FLOW
 999          DT   BPC3T
1000          DI       0   10000
1001          DQ       0   10000
              *

1002          KK  SUB3E3
1003          KM        RUNOFF FROM SUBBASIN 3E3, PARCEL 3E.
1004          BA    .020
1005          LS              77      32
1006          UD     .06
              *

1007          KK     PC4
1008          KM        PC4 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1009          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1010          KM
1011          KM        RUNOFF FROM SUBBASIN PC4.
1012          BA  0.0217
1013          LS              77       0
1014          UK     300    .015     .15     100
1015          RK    1100     .01     .03            TRAP      30       4
              *
```



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

1016          KK     D7S
1017          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1018          KM        LOOP DETENTION BASIN VIA THE POWER LINE CHANNEL.
1019          KM
1020          KM        RETRIEVE DIVERTED FLOW
1021          DR    B7ST
              *

1022          KK    CPC4
1023          KM        THE HEC1 OPREATION TEMPAD IS CHANGED BY GVSCE TO ESTIMATE THE INFLOW TO
1024          KM        THE POWER LINE CHANNEL WHERE THE FLOW FROM CP7S ENTERS THE CHANNEL.
1025          KM
1026          KM        COMBINE HYDROGRAPH FROM CP3E3 W/RUNOFF FROM PC4.
1027          HC       3  0.8043
              *

1028          KK   DPC4T
1029          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1030          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1031          KM
1032          KM        DIVERT 100% OF FLOW
1033          DT   BPC4T
1034          DI       0   10000
1035          DQ       0   10000
              *

1036          KK   CLEAR
1037          KM        CLEAR HYDROGRAPHS FROM THE STACK.
1038          HC       3
              *
              *
              *       THIS ENDS THE PORTION OF THE MODEL TAKEN FROM DRAINAGE REPORT
              *       FOR VILLAGE 3 - PHASE I HEC-1 MODEL BY GILBERTSON ASSOC. INC.
              *       DATED 7-19-95
              *
              *
              *
              * RETURN TO NORTH 18\VILLAGE 2\TPP3 MODEL.
              * THE REMAINDER OF THE SUBBASINS IN THIS  MODEL  WILL CONTRIBUTE TO THE
              * PROPOSED CHANNNEL IN THE POWER EASEMENT AS IDENTIFIED IN THE
              * "COMMUNITY DRAINAGE STUDY - CORE NORTH AND WILL DISCHARGE TO REGIONAL
              * RETENTION BASIN 38R1.
              *
              *

1039          KK     1A1
1040          KM        RUNOFF FROM INTERIM SUBBASIN 1A
1041          BA  0.7465
1042          LS              70       0
1043          UK     300    0.02    0.13     100
1044          RK    1420   0.032   0.045  0.0061    TRAP       0      13
1045          RK   10800   0.033   0.045            TRAP      10       9
              *
```

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

1046          KK    R1A1
1047          KM
1048          RS       3    FLOW      -1
1049          RC   0.035   0.035   0.035    6000   0.025
1050          RX    1000    1010    1020    1030    1080    1090    1100    1110
1051          RY       3       2       1       0       0       1       2       3
              *

1052          KK     1A2
1053          KM        RUNOFF FROM INTERIM SUBBASIN 1A
1054          BA  0.6108
1055          LS            74.5      25
1056          UK     150    0.01    0.10     100
1057          RK    1000    0.02   0.025   0.028    TRAP       0      20
1058          RK    5000   0.025   0.035            TRAP      50      10
              *

1059          KK     C1A
1060          KM
1061          HC       2
              *

1062          KK    R14R
1063          KM        ROUTE FLOW FROM DIVERT AT DEER VALLEY ROAD (UPSTREAM OF SUBBAIN 5) TO
1064          KM        RET14.1
1065          RS       1    FLOW
1066          RC    .055    .045    .055    2900     .01
1067          RX       0      16      26      30      50      54      64      80
1068          RY       6       2       2       0       0       2       2       6
              * RET 141 HAS BEEN REVISED FOLLOWING REFINEMENT OF GRADING PLANS 11-16-94
              *

1069          KK  RET141
1070          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.1.  18" PIPE OUTFLOW WILL
1071          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1072          RS       1    STOR       0       0
1073          SV       0     .46    2.79    4.56    5.71    6.92    8.24
1074          SQ       0      11      15      22     147     463     968
1075          SE    1778    1785    1790    1792    1793    1794    1795
              *

1076          KK   R14.1
1077          KM        ROUTE FLOW FROM RET14.1 TO CP14
1078          KM        RET14.1
1079          RS       1    FLOW
1080          RC    .055    .045    .055    1900     .01
1081          RX       0      16      26      30      50      54      64      80
1082          RY       6       2       2       0       0       2       2       6
              *
```



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

1083          KK  SUB13N
1084          KM        RUNOFF FROM SUBBASIN 13 NORTH 18 MODEL.
1085          BA    .037
1086          LS              77      24
1087          UK     100    .015     .15     100
1088          RK    2400    .007    .018            TRAP      50      20
              *

1089          KK   R14.1
1090          KM        ROUTE FLOW FROM CP13 TO RET14 NORTH 18 MODEL.
1091          RS       1    FLOW
1092          RC    .055    .045    .055     950    .025
1093          RX       0       8      13      17      22      26      31      39
1094          RY       4       2       2       0       0       2       2       4
              *

1095          KK  SUB14N
1096          KM        RUNOFF FROM SUBBASIN 14 NORTH 18 MODEL.
1097          BA    .049
1098          LS              81       0
1099          UK     300    .025     .15     100
1100          RK    2300     .01    .025            TRAP      10       4
              *

1101          KK    CP14
1102          KM        ADD HYDROGRAPHS AT CP14
1103          HC       3
              *

1104          KK   RET14
1105          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.  18" PIPE OUTFLOW WILL
1106          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1107          RS       1    STOR       0       0
1108          SV       0     .08     .31    1.01    2.16    3.20    4.19    5.69     7.8
1109          SQ       0      14      16      18      20      22     155     464     750
1110          SE    1744    1746    1748    1750    1752    1753    1754    1755    1756
```

```
                 *
1111             KK   R18.1
1112             KM        ROUTE FLOW FROM RET14 TO CP18
1113             RS       1    FLOW
1114             RC    .055    .045    .055     500    .016
1115             RX       0      16      26      34      54      68      78      96
1116             RY       6       2       2       0       0       2       2       6
                 *
1117             KK  SUB20N
1118             KM        RUNOFF FROM SUBBASIN 20.
1119             BA    .024
1120             LS              77      24
1121             UK     200     .01     .15     100
1122             RK    1400     .02    .018            TRAP      50      20
                 *
1                                          HEC-1 INPUT                                                    PAGE 33

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

1123             KK     R19
1124             KM        ROUTE FLOW FROM CP20 TO CP19
1125             RS       1    FLOW
1126             RC    .035    .035    .035     700     .02
1127             RX       0       8      13      17      22      26      31      39
1128             RY       4       2       2       0       0       2       2       4
                 *
1129             KK  SUB19N
1130             KM        RUNOFF FROM SUBBASIN 19.
1131             BA    .038
1132             LS              77      31
1133             UK     150     .01     .15     100
1134             RK    1800    .015    .018            TRAP      50      20
                 *
1135             KK   CP19N
1136             KM        ADD HYDROGRAPHS  AT CP19N
1137             HC       2
                 *
1138             KK   R18NC
1139             KM        ROUTE FLOW FROM  CP19N TO CP18NC
1140             RS       1    FLOW
1141             RC    .035    .035    .035     700    .013
1142             RX       0       8      13      17      27      31      36      44
1143             RY       4       2       2       0       0       2       2       4
                 *
1144             KK  UB18NC
1145             KM        RUNOFF FROM SUBBASIN 18NC.
1146             BA    .021
1147             LS              77      42
1148             UK     100     .01     .15     100
1149             RK    1550     .02    .018            TRAP      50      20
                 *
1150             KK  CP18NC
1151             KM        ADD HYDROGRAPHS  AT CP18NC (INCLUDES R18.1, R18, AND SUB18)
1152             HC       3
                 *
1153             KK    RPC1
1154             KM        ROUTE FLOW FROM CP18N TO CPC1.
1155             RS       1    FLOW
1156             RC    .035    .035    .035     510    .013
1157             RX       0      16      26      34      64      78      88     106
1158             RY       6       2       2       0       0       2       2       6
                 *
1                                          HEC-1 INPUT                                                    PAGE 34

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

1159             KK  UB18NA
1160             KM        RUNOFF FROM SUBBASIN 18NA.
1161             BA    .022
1162             LS              77      42
1163             UK     100     .01     .15     100
1164             RK    1450     .02    .018            TRAP      50      20
                 *
1165             KK   1RPC1
1166             KM        ROUTE FLOW FROM CP18NA TO CPC1.
1167             RS       1    FLOW
1168             RC    .035    .035    .035    2550     .01
1169             RX       0      16      26      34      64      78      88     106
1170             RY       8       4       2       0       0       2       4       8
                 *
1171             KK  UB18NB
1172             KM        RUNOFF FROM SUBBASIN 18NB.
1173             BA   .0096
```

```
1174          LS              77      42
1175          UK     100     .01     .15     100
1176          RK     800     .02    .018            TRAP      50      20
              *

1177          KK   2RPC1
1178          KM        ROUTE FLOW FROM CP18NB TO CPC1.
1179          RS       1    FLOW
1180          RC    .035    .035    .035    2000     .01
1181          RX       0      16      26      34      64      78      88     106
1182          RY       8       4       2       0       0       2       4       8
              *

1183          KK     PC1
1184          KM        RUNOFF FROM SUBBASIN PC1.
1185          BA    .062
1186          LS              77      10
1187          UK     500    .015     .15     100
1188          RK    2700     .01     .03            TRAP      30       4
              *

1189          KK   1CPC1
1190          KM        ADD HYDROGRAPHS  AT CPC1.
1191          HC       3
              *

1192          KK   SRPC1
1193          KM        STOAGE ROUTE THROUGH DET BASIN IN POWER CORRIDOR.
1194          RS       1    STOR       0       0
1195          SV       0     .29     .73
1196          SQ       0       0     350
1197          SE    1747    1748    1749
              *
1                                          HEC-1 INPUT                                                    PAGE 35

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


1198          KK    CPC1
1199          KM        ADD HYDROGRAPHS  AT CPC1.
1200          HC       2
              *

1201          KK  R16NA1
1202          KM        ROUTE FLOW FROM CPC1 TO C16NA1.
1203          RS       1    FLOW
1204          RC    .035    .035    .035     700    .013
1205          RX       0      16      26      34      74      88      98     116
1206          RY       8       4       2       0       0       2       4       8
              *

1207          KK  UB16NA
1208          KM        RUNOFF FROM SUBBASIN 16NA.
1209          BA   .0139
1210          LS              77      42
1211          UK     100    .015     .15     100
1212          RK    1500    .015    .022            TRAP      50      20
              *

1213          KK  R16NA1
1214          KM        ROUTE FLOW FROM CP16NA TO CP16NA1.
1215          RS       1    FLOW
1216          RC    .035    .035    .035     550    .013
1217          RX       0      16      26      34      44      58      68      86
1218          RY       6       2       2       0       0       2       2       6
              *

1219          KK  C16NA1
1220          KM        ADD HYDROGRAPHS  AT CP16NA1.
1221          HC       2
              *

1222          KK  R16NB1
1223          KM        ROUTE FLOW FROM CP16NA1 TO CP16NB1.
1224          RS       1    FLOW
1225          RC    .035    .035    .035     650    .013
1226          RX       0      16      26      34      74      88      98     116
1227          RY       8       4       2       0       0       2       4       8
              *

1228          KK  UB16NB
1229          KM        RUNOFF FROM SUBBASIN 16NB.
1230          BA   .0156
1231          LS              77      42
1232          UK     100    .015     .15     100
1233          RK    1500    .015    .022            TRAP      50      20
              *
1                                          HEC-1 INPUT                                                    PAGE 36

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


1234          KK  R16NB1
1235          KM        ROUTE FLOW FROM CP16NB TO CP16NB1.
1236          RS       1    FLOW
```

```
1237          RC    .035    .035    .035     550    .013
1238          RX       0      16      26      34      44      58      68      86
1239          RY       6       2       2       0       0       2       2       6
              *

1240          KK  C16NB1
1241          KM        ADD HYDROGRAPHS  AT CP16NB1.
1242          HC       2
              *

1243          KK  R16NC1
1244          KM        ROUTE FLOW FROM CP16NB1 TO CP16NC1.
1245          RS       1    FLOW
1246          RC    .035    .035    .035     650    .013
1247          RX       0      16      26      34      54      68      78      96
1248          RY       6       2       2       0       0       2       2       6
              *

1249          KK   SUB7N
1250          KM        RUNOFF FROM SUBBASIN 7N.
1251          BA    .031
1252          LS              77      18
1253          UK     100    .015     .15     100
1254          RK    1900     .01    .018            TRAP      50      20
              *

1255          KK    R8NC
1256          KM        ROUTE FLOW FROM CP7N TO CP8NC.
1257          RS       1    FLOW
1258          RC    .055    .045    .055     700    .025
1259          RX       0       8      13      17      22      26      31      39
1260          RY       4       2       2       0       0       2       2       4
              *

1261          KK  SUB8NA
1262          KM        RUNOFF FROM SUBBASIN 8NA.
1263          BA   .0046
1264          LS              81       0
1265          UK     100     .03     .15     100
1266          RK     450     .03    .025            TRAP      20       6
              *

1267          KK   SR8NA
1268          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NA.
1269          RS       1    STOR       0       0
1270          SV       0     .51    .816
1271          SQ       0       1      43
1272          SE    1791    1795    1796
              *
1                                          HEC-1 INPUT                                                    PAGE 37

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

1273          KK    R8NB
1274          KM        ROUTE FLOW FROM CP8NA TO CP8NB.
1275          RS       1    FLOW
1276          RC    .025    .025    .025     300     .03
1277          RX       0      12      24      36      56      68      80      92
1278          RY       6       4       2       0       0       2       4       6
              *

1279          KK  SUB8NB
1280          KM        RUNOFF FROM SUBBASIN 8NB.
1281          BA   .0142
1282          LS              81       0
1283          UK     100     .03     .15     100
1284          RK    1150    .025    .025            TRAP      20       6
              *

1285          KK   CP8NB
1286          KM        ADD HYDROGRAPHS AT CP8NB.
1287          HC       2
              *

1288          KK   SR8NB
1289          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NB.
1290          RS       1    STOR       0       0
1291          SV       0   .0124   1.754    2.45
1292          SQ       0       2       2      72
1293          SE    1784    1785    1790    1791
              *

1294          KK    R8NC
1295          KM        ROUTE FLOW FROM CP8NB TO CP8NC.
1296          RS       1    FLOW
1297          RC    .025    .025    .025     500     .03
1298          RX       0      12      24      36      56      68      80      92
1299          RY       6       4       2       0       0       2       4       6
              *

1300          KK  SUB8NC
1301          KM        RUNOFF FROM SUBBASIN 8NC.
1302          BA   .0182
1303          LS              81       0
```

```
1304          UK     100     .03     .15     100
1305          RK     900     .03    .025            TRAP      20       6
              *

1306          KK   CP8NC
1307          KM        ADD HYDROGRAPHS AT CP8NC.
1308          HC       3
              *
```



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

1309          KK   SR8NC
1310          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NC.
1311          RS       1    STOR       0       0
1312          SV       0    .404   2.444    3.13   3.979
1313          SQ       0      10      14     151    1004
1314          SE    1771    1775    1780    1781    1782
              *

1315          KK     R9N
1316          KM        ROUTE FLOW FROM CP8N TO CP9N.
1317          RS       1    FLOW
1318          RC    .025    .025    .025    1150    .025
1319          RX       0       8      13      17      22      26      31      39
1320          RY       4       2       2       0       0       2       2       4
              *

1321          KK   SUB9N
1322          KM        RUNOFF FROM SUBBASIN 9N.
1323          BA    .055
1324          LS              77      28
1325          UK     100    .008     .15     100
1326          RK    1700     .01    .018            TRAP      50      20
              *

1327          KK    CP9N
1328          KM        ADD HYDROGRAPHS AT CP9N
1329          HC       2
              *

1330          KK    R10B
1331          KM        ROUTE FLOW FROM CP9N TO CP10B.
1332          RS       1    FLOW
1333          RC     .03     .03     .03     400     .02
1334          RX       0       8      16      24      29      37      45      53
1335          RY       6       4       2       0       0       2       4       6
              *

1336          KK  SUB10B
1337          KM        RUNOFF FROM SUBBASIN 10B.
1338          BA    .028
1339          LS              77      42
1340          UK     100    .015     .15     100
1341          RK     350    .008    .018            TRAP      50      20
1342          RK     600    .008    .025            TRAP      10       4
              *

1343          KK   CP10B
1344          KM        ADD HYDROGRAPHS AT CP10B
1345          HC       2
              *
```



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

1346          KK   R11NA
1347          KM        ROUTE FLOW FROM CP10B TO CP11NA.
1348          RS       1    FLOW
1349          RC     .03     .03     .03     200     .04
1350          RX       0       8      16      24      29      37      45      53
1351          RY       6       4       2       0       0       2       4       6
              *

1352          KK  UB11NA
1353          KM        RUNOFF FROM SUBBASIN 11NA.
1354          BA   .0076
1355          LS              81       0
1356          UK     100    .025     .15     100
1357          RK     500     .03    .025            TRAP      30       6
              *

1358          KK  CP11NA
1359          KM        ADD HYDROGRAPHS AT CP11NA
1360          HC       2
              *

1361          KK  SR11NA
1362          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NA.
1363          RS       1    STOR       0       0
1364          SV       0   .0462   1.425   2.480   3.109   3.856
1365          SQ       0      10      27      27      27     237
1366          SE    1734    1735    1740    1742    1743    1744
```

```
                *

1367            KK   R11NB
1368            KM        ROUTE FLOW FROM CP11NA TO CP11NB.
1369            RS       1    FLOW
1370            RC    .025    .025    .025     250     .03
1371            RX       0      12      24      36      56      68      80      92
1372            RY       6       4       2       0       0       2       4       6
                *

1373            KK  UB11NB
1374            KM        RUNOFF FROM SUBBASIN 11NB.
1375            BA   .0078
1376            LS              81       0
1377            UK     100     .04     .15     100
1378            RK     700    .025    .025            TRAP      30       6
                *

1379            KK  CP11NB
1380            KM        ADD HYDROGRAPHS AT CP11NB
1381            HC       2
                *
1                                          HEC-1 INPUT                                                    PAGE 40

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


1382            KK  SR11NB
1383            KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NB.
1384            RS       1    STOR       0       0
1385            SV       0    1.56   2.586
1386            SQ       0      27     111
1387            SE    1732    1737    1738
                *

1388            KK   R11NC
1389            KM        ROUTE FLOW FROM CP11NB TO CP11NC.
1390            RS       1    FLOW
1391            RC    .025    .025    .025     300     .03
1392            RX       0      12      24      36      56      68      80      92
1393            RY       6       4       2       0       0       2       4       6
                *

1394            KK  UB11NC
1395            KM        RUNOFF FROM SUBBASIN 11NC.
1396            BA   .0069
1397            LS              81       0
1398            UK     100     .03     .15     100
1399            RK     650    .028    .025            TRAP      20       5
                *

1400            KK  C11NC1
1401            KM        ADD HYDROGRAPHS AT CP11NC.1
1402            HC       2
                *

1403            KK  SUB10A
1404            KM        RUNOFF FROM SUBBASIN 10A.
1405            BA    .030
1406            LS              77      42
1407            UK     100    .015     .15     100
1408            RK     350    .008    .018            TRAP      50      20
1409            RK     800    .008    .025            TRAP      10       4
                *

1410            KK   R12NB
1411            KM        ROUTE FLOW FROM CP10A TO CP12NB.
1412            RS       1    FLOW
1413            RC    .025    .025    .025     400     .03
1414            RX       0      12      24      36      46      58      70      82
1415            RY       6       4       2       0       0       2       4       6
                *

1416            KK  UB12NA
1417            KM        RUNOFF FROM SUBBASIN 12NA.
1418            BA   .0153
1419            LS              81       0
1420            UK     150    .025     .15     100
1421            RK     650    .017    .025            TRAP      30       6
                *
1                                          HEC-1 INPUT                                                    PAGE 41

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


1422            KK  SR12NA
1423            KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB1NA.
1424            RS       1    STOR       0       0
1425            SV       0    2.16   3.426   5.071
1426            SQ       0       1       2     142
1427            SE    1741    1745    1746    1747
                *

1428            KK   R12NA
1429            KM        ROUTE FLOW FROM CP12NA TO CP12NB.
```

```
1430          RS       1    FLOW
1431          RC    .025    .025    .025     550    .025
1432          RX       0      12      24      36      46      58      70      82
1433          RY       6       4       2       0       0       2       4       6
              *

1434          KK  UB12NB
1435          KM        RUNOFF FROM SUBBASIN 12NB.
1436          BA   .0157
1437          LS               81       0
1438          UK     150    .025     .15     100
1439          RK     650    .017    .025            TRAP      30       6
              *

1440          KK  CP12NB
1441          KM        ADD 3 HYDROGRAPHS AT CP12NB
1442          HC       3
              *

1443          KK  SR12NB
1444          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB12NB.
1445          RS       1    STOR       0       0
1446          SV       0    .922    4.24    7.53
1447          SQ       0       2       2     142
1448          SE    1741    1745    1746    1747
              *

1449          KK  R11NC2
1450          KM        ROUTE FLOW FROM CP12NA TO CP11NC.
1451          RS       1    FLOW
1452          RC    .025    .025    .025     550     .01
1453          RX       0      12      24      36      46      58      70      82
1454          RY       6       4       2       0       0       2       4       6
              *

1455          KK  CP11NC
1456          KM        ADD HYDROGRAPHS  AT CP11NC
1457          HC       2
              *
```



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

1458          KK  SR11NC
1459          KM        ROUTE FLOW THROUGH RETENTION BASIN RT11NC.  18" PIPE OUTFLOW WILL
1460          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1461          RS       1    STOR       0       0
1462          SV       0   1.665   2.303   3.062
1463          SQ       0      27     111     344
1464          SE    1730    1735    1736    1737
              *

1465          KK   R16NC
1466          KM        ROUTE FLOW FROM CP11NC TO CP16NC.
1467          RS       1    FLOW
1468          RC    .035    .035   0.035     950    .025
1469          RX       0       8      13      17      22      26      31      39
1470          RY       4       2       2       0       0       2       2       4
              *

1471          KK  UB16NC
1472          KM        RUNOFF FROM SUBBASIN 16NC.
1473          BA   .0337
1474          LS               77      42
1475          UK     100    .015     .15     100
1476          RK    1600    .015    .022            TRAP      50      20
              *

1477          KK  CP16NC
1478          KM        ADD HYDROGRAPHS  AT CP16NC
1479          HC       2
              *

1480          KK  R16NC1
1481          KM        ROUTE FLOW FROM CP16NC TO CP16NC1.
1482          RS       1    FLOW
1483          RC     .03     .03     .03     550    .013
1484          RX       0      16      26      34      44      58      68      86
1485          RY       6       2       2       0       0       2       2       6
              *

1486          KK  C16NC1
1487          KM        ADD HYDROGRAPHS  AT CP16NC1.
1488          HC       2
              *

1489          KK   R15N1
1490          KM        ROUTE FLOW FROM CP16NC1 TO CP15N1.
1491          RS       1    FLOW
1492          RC    .035    .035    .035     600    .013
1493          RX       0      16      26      34      54      68      78      96
1494          RY       6       2       2       0       0       2       2       6
              *
```

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

1495          KK     PC2
1496          KM        RUNOFF FROM SUBBASIN PC2.
1497          BA    .054
1498          LS              77      10
1499          UK     100     .015     .15     100
1500          RK    2700      .01     .03            TRAP      50       4
              *

1501          KK  CP15N1
1502          KM        ADD HYDROGRAPHS  AT CP15N1
1503          HC       2
              *

1504          KK   SRPC2
1505          KM        STORAGE ROUTE THRU DETENTION BASINS IN POWER CORRIDOR THIS IS THE TOTAL
1506          KM        FLOW REACHING THE UPSTREAM SIDE OF THE THOMPSON PEAK PARKWAY BRIDGE
1507          RS       1    STOR       0       0
1508          SV       0    1.02    2.70    4.48     5.8     6.9
1509          SQ       0       0     150     350     550     850
1510          SE    1730    1731    1732    1733    1734    1735
              *

1511          KK  UB17NA
1512          KM        RUNOFF FROM SUBBASIN SUB17NA.
1513          BA  .00979
1514          LS              81       0
1515          UK     150    .025     .05     100
1516          RK     960   .0292    .025            TRAP      30      50
              *

1517          KK  SR17NA
1518          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NA.
1519          RS       1    STOR       0       0
1520          SV       0   .0078    .241    .523    1.00   1.735
1521          SQ       0       1       1       1    17.4     251
1522          SE  1755.2    1756    1758    1759    1760    1761
              *

1523          KK   R17NB
1524          KM        ROUTE FLOW FROM SR17NA TO CP17NB.
1525          RS       1    FLOW
1526          RC    0.03    0.03    0.03     280  0.0286
1527          RX       0      10      20      35      70      85      90     100
1528          RY    1757  1756.8  1756.6    1756    1756    1757    1758    1759
              *

1529          KK  UB17NB
1530          KM        RUNOFF FROM SUBBASIN SUB17NB.
1531          BA   .0111
1532          LS              81       0
1533          UK     150    .025     .05     100
1534          RK    1200   .0217    .025            TRAP      30      50
              *
```



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

1535          KK  CP17NB
1536          KM        ADD HYDROGRAPHS AT SUB17NB.
1537          HC       2
              *

1538          KK  SR17NB
1539          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NB.
1540          RS       1    STOR       0       0
1541          SV       0   .0113   .1469    .635   .9795   1.509   2.254   3.243
1542          SQ       0       1       1       1       1       1    38.2     189
1543          SE  1751.5    1752    1753    1755    1756    1757    1758    1759
              *

1544          KK    R17A
1545          KM        ROUTE FLOW FROM SR17NB TO CP17A.
1546          RS       1    FLOW
1547          RC    0.03    0.03    0.03     280   0.033
1548          RX       0      15      18      20      24      27      30      35
1549          RY    1755    1754    1753    1752    1752    1753    1754    1755
              *

1550          KK  SUB17A
1551          KM        RUNOFF FROM SUBBASIN SUB17A.
1552          BA  .00792
1553          LS              77      34
1554          UK      75     .03     .05     100
1555          RK    1500     .02    .025            TRAP       8       4
              *

1556          KK  CP17A1
1557          KM        ADD HYDROGRAPHS AT CP17A1.
1558          HC       2
              *
```

```
1559          KK  UB17NC
1560          KM        RUNOFF FROM SUBBASIN SUB17NC.
1561          BA  .00559
1562          LS              77      12
1563          UK      75     .03     .05     100
1564          RK     910   .0187    .025            TRAP       8       4
              *

1565          KK   CP17A
1566          KM        ADD ALL HYDROGRAPHS AT CP17A.
1567          HC       2
              *

1568          KK    R15N
1569          KM        ROUTE FLOW FROM CP17A TO CP15N.
1570          RS       1    FLOW
1571          RC    .035    .035    .035    1950    .025
1572          RX       0       8      13      17      22      26      31      39
1573          RY       4       2       2       0       0       2       2       4
              *
1                                          HEC-1 INPUT                                                    PAGE 45

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

1574          KK  SUB15N
1575          KM        RUNOFF FROM SUBBASIN 15N.
1576          BA   .0391
1577          LS              77      68
1578          UK     100     .01     .15     100
1579          RK     400    .008    .018            TRAP      50      20
1580          RK    1700    .015    .025            TRAP      10       4
              *

1581          KK   CP15N
1582          KM        ADD HYDROGRAPHS  AT CP15N
1583          HC       2
              *

1584          KK   R15N2
1585          KM        ROUTE FLOW FROM CP15N TO CP15N1.
1586          RS       1    FLOW
1587          RC     .02     .02     .02     700    .013
1588          RX       0       8      13      17      22      26      31      39
1589          RY       6       2       2       0       0       2       2       6
              *

1590          KK  CP15N2
1591          KM        ADD HYDROGRAPHS  AT CP15N1
1592          KM        THIS IS THE INTERIM OUTFLOW DISCHARGE TO NATURAL WASH.
1593          HC       2  2.0449
              *

1594          KK   R15N2
1595          KM        ROUTE 15N2 IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CP15N2 TO THE
1596          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1597          KM
1598          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1599          RS       1    FLOW      -1
1600          RC    .035    .035    .035    2200    .013
1601          RX       0      16      26      34      64      78      88     106
1602          RY       6       2       2       0       0       2       2       6
              *

1603          KK    DPC3
1604          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1605          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1606          KM
1607          KM        RETRIEVE DIVERTED FLOW
1608          DR   BPC3T
              *

1609          KK   CPC3A
1610          KM        COMBINE CPC3A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE AT THE
1611          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1612          KM
1613          KM        COMBINE ROUTED HYDROGRAPH FROM CP15N2 WITH HYDROGRAPH FROM CPC3
1614          HC       2  2.2284
              *
1                                          HEC-1 INPUT                                                    PAGE 46

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

1615          KK   RPC3A
1616          KM        ROUTE PC3A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC3A VIA
1617          KM        THE POWER LINE CHANNEL.
1618          KM
1619          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1620          RS       1    FLOW      -1
1621          RC    .035    .035    .035    1100    .013
1622          RX       0      16      26      34      64      78      88     106
1623          RY       6       2       2       0       0       2       2       6
              *
```

```
1624          KK    DPC4
1625          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1626          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1627          KM
1628          KM        RETRIEVE DIVERTED FLOW
1629          DR   BPC4T
              *

1630          KK   CPC4A
1631          KM        COMBINE CPC4A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE IN THE
1632          KM        POWER LINE CHANNEL
1633          KM
1634          KM        COMBINE ROUTED HYDROGRAPH FROM CPC3A WITH HYDROGRAPH FROM CPC4
1635          HC       2  3.0327
              *

1636          KK   RPC4A
1637          KM        ROUTE PC4A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC4A TO THE
1638          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI RD.
1639          KM
1640          KM        ROUTE FLOW FROM CPC4A TO CPC5.
1641          RS       1    FLOW      -1
1642          RC    .035    .035    .035    1900    .013
1643          RX       0      16      26      34      64      78      88     106
1644          RY       6       2       2       0       0       2       2       6
              *

1645          KK  DPC4AT
1646          KM        DIVERT PC4A IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1647          KM        FREEWAY EAST-BASIN VIAL THE POWER LINE CHANNEL.
1648          KM
1649          KM        DIVERT 100% OF FLOW
1650          DT  BPC4AT
1651          DI       0   10000
1652          DQ       0   10000
              *

1653          KK  SUB1-2
1654          KM        RUNOFF FROM SUB 1 AND 2, SOUTH COURSE MODEL
1655          BA   .0558
1656          LS              77      68
1657          UK     200    .010     .15     100
1658          RK    1370    .027    .015            TRAP      50      20
              *
1                                          HEC-1 INPUT                                          PAGE 47

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

1659          KK  GCRB18
1660          KM        RUNOFF FROM GOLF COURSE CONTRIBUTING TO RETENTION BASIN AT HOLE NO. 18
1661          KM        AND HOLE NO. 10, SOUTH COURSE
1662          BA    .012
1663          LS              81       0
1664          UK     200    .025     .15     100
1665          RK     300    .016    .025            TRAP      10       4
              *

1666          KK  CPRET1
1667          KM        COMBINE HYDROGRAPHS AT RETENTION BASINS ON HOLE 18 & 10
1668          HC       2
              *

1669          KK   SR18S
1670          KM        STORAGE ROUTE THRU RETENTION BASIN AT HOLE 18, SOUTH COURSE
1671          RS       1    STOR       0       0
1672          SV       0  1.7635  5.7722  12.174  21.337  28.849  30.151      32
1673          SE    1725    1730    1735    1740    1745    1748    1749    1750
1674          SQ       0       0       0       0       0      42     386     900
              *

1675          KK   SUB5S
1676          KM        RUNOFF FROM SUB 5S
1677          BA   .0263
1678          LS              77      31
1679          UK     100    .010     .15     100
1680          RK    1280    .007    .015            TRAP      50      20
              *

1681          KK  GC1216
1682          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 12, 16, AND 17
1683          BA   .0365
1684          LS              81       0
1685          UK     200    .025     .15     100
1686          RK    2200    .024    .025            TRAP      10       4
              *

1687          KK  GC1415
1688          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 13, 14, 15 AND RETENTION
1689          BA    .045
1690          LS              81       0
1691          UK     200    .025     .15     100
1692          RK    1300    .022    .025            TRAP      10       4
              *
```

```
1693          KK   SUB6S
1694          KM        RUNOFF FROM SUB BASIN 6, SOUTH COURSE
1695          BA    .021
1696          LS              77       42
1697          UK     100    .010      .15      100
1698          RK    2150    .013     .025             TRAP      50       20
              *
1                                          HEC-1 INPUT                                                    PAGE 48

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


1699          KK   SUB7S
1700          KM        RUNOFF FROM SUB BASIN 7, SOUTH COURSE
1701          BA    .027
1702          LS              77       42
1703          UK     100    .010      .15      100
1704          RK    2080    .023     .025             TRAP      50       20
              *

1705          KK  CPRET2
1706          KM        COMBINE HYDROGRAPHS AT RETENTION BASIN 2, SOUTH COURSE
1707          HC       5
              *

1708          KK  SRRET2
1709          KM        STORAGE THRU RETENTION BASIN NO. 2, SOUTH COURSE
1710          RS       1    STOR        0        0
1711          SV       0    .617    3.474    9.858   20.063   35.353   52.685   57.749       62
1712          SE    1670    1675     1680     1685     1690     1695     1699     1700     1701
1713          SQ       0       0        0        0        0        0       32      386      594
              *
              *       NO FLOW RELEASED FROM RETENTION BASIN
              *

1714          KK   CLEAR
1715          KM        THIS OPERATION IS ADDED BY GVSCE
1716          KM
1717          KM        CLEAR HYDROGRAPHS FROM THE STACK
1718          HC       2
              *

1719          KK   SUB8S
1720          KM        RUNOFF FROM SUB BASIN 8, SOUTH COURSE
1721          BA   .0256
1722          LS              77       42
1723          UK     100    .010      .15      100
1724          RK    1600    .015     .025             TRAP      50       20
              *

1725          KK   RGC36
1726          KM        ROUTE SUB8S TO CPGC36
1727          RS       1    FLOW
1728          RC    .055    .045     .055      850      .02
1729          RX       0      16       26       30       40       44       54       70
1730          RY       6       2        2        0        0        2        2        6
              *

1731          KK    GC36
1732          KM        RUNOFF FROM SOUTH COURSE HOLES 3, 6, AND NORTH HALF OF HOLE 4.
1733          BA   .0406
1734          LS              81        0
1735          UK     200    .025      .15      100
1736          RK    2350    .015     .035             TRAP      10        4
              *
1                                          HEC-1 INPUT                                                    PAGE 49

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


1737          KK  C1GC36
1738          KM        COMBINE SUBS 8 AND GC36
1739          HC       2
              *

1740          KK   SUB9S
1741          KM        RUNOFF FROM SUB BASIN 9, SOUTH COURSE
1742          BA    .021
1743          LS              77       53
1744          UK     100    .010      .15      100
1745          RK    1100    .013     .025             TRAP      50       20
              *

1746          KK     R9S
1747          KM        ROUTE SUB9S TO CPGC36
1748          RS       1    FLOW
1749          RC    .035    .035     .035      500      .02
1750          RX       0       8       12       16       18       22       26       30
1751          RY       6       4        3        2        2        3        4        6
              *

1752          KK  CPGC36
1753          KM        COMBINE SUBS 8 AND 9 SOUTH AND GC36
1754          HC       2
```

```
                 *
1755             KK  SRGC36
1756             KM        STORAGE THRU DETENTION BASIN ON GC36
1757             RS       1    STOR       0       0
1758             SV       0    0.85     1.0
1759             SE    1664    1668    1669
1760             SQ       0      20     205
                 *

1761             KK   SUB7A
1762             KM        RUNOFF FROM SUB7A, SOUTH COURSE EAST SIDE ADJACENT TO PIMA ROAD
1763             BA   .0092
1764             LS              77      42
1765             UK     100    .025     .15     100
1766             RK     950    .015    .025            TRAP      50      20
                 *

1767             KK    SR7A
1768             KM        STORAGE THRU DETENTION BASIN ON SUB7A
1769             RS       1    STOR       0       0
1770             SV       0     .68      .8
1771             SE    1700    1703    1704
1772             SQ       0      10     150
                 *
1                                          HEC-1 INPUT                                                    PAGE 50

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

1773             KK    R10S
1774             KM        ROUTE FLOW FROM CP7A TO CP10S
1775             RS       1    FLOW
1776             RC    .035    .035    .035    1400    .015
1777             RX       0       8      12      16      18      22      26      30
1778             RY       6       4       3       2       2       3       4       6
                 *

1779             KK  SUB10S
1780             KM        RUNOFF FROM SUB BASIN 10, SOUTH COURSE
1781             BA   .0248
1782             LS              77      53
1783             UK     100    .010     .15     100
1784             RK    1150    .020    .025            TRAP      50      20
                 *

1785             KK   CP10S
1786             KM        COMBINE HYDROGRAPHS AT CP10 SOUTH COURSE
1787             HC       2
                 *

1788             KK  SUB11S
1789             KM        RUNOFF FROM SUB11, SOUTH COURSE
1790             BA   .0234
1791             LS              77      68
1792             UK     100    .015    .018     100
1793             RK    1050    .015    .025            TRAP     100      20
                 *

1794             KK    R11S
1795             KM        ROUTE 11S IS ADDED BY GVSCE TO ROUTE THE RUNOFF FROM SUB11S TO THE
1796             KM        POWER LINE CHANNEL CROSSING AT HUALAPAI DR ALONG HUALAPAI DR.
1797             KM
1798             KM        ROUTE FLOW FROM SUB11S TO CPC5.
1799             RS       1    FLOW      -1
1800             RC    .035    .035    .035     900    .015
1801             RX       0       8      12      16      18      22      26      30
1802             RY       6       4       3       2       2       3       4       6
                 *

1803             KK   C10SA
1804             KM        COMBINE 10SA IS ADDED BY GVSCE
1805             KM
1806             KM        COMBINE ROUTED HYDROGRAPH FROM 11S WITH HYDROGRAPH FROM CP10S
1807             HC       2
                 *

1808             KK   R10SA
1809             KM        ROUTE 10SA IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1810             KM        FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1811             KM
1812             KM        ROUTE FLOW FROM C10SAS TO CPC5.
1813             RS       1    FLOW      -1
1814             RC    .035    .035    .035     900    .015
1                                          HEC-1 INPUT                                                    PAGE 51

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

1815             RX       0       8      12      16      18      22      26      30
1816             RY       6       4       3       2       2       3       4       6
                 *

1817             KK    GC45
1818             KM        RUNOFF FROM SOUTH COURSE HOLES 4 AND 5
1819             BA   .0127
```

```
1820          LS              81       0
1821          UK     200    .015    .025     100
1822          RK     550    .015    .035            TRAP      10       4
              *

1823          KK   CGC45
1824          KM        COMBINE CGC45 IS ADDED BY GVSCE
1825          KM
1826          KM        COMBINE ROUTED HYDROGRAPH FROM 10SA WITH RUNOFF FROM GC45
1827          HC       2
              *

1828          KK     PC5
1829          KM        PC5 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1830          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1831          KM
1832          KM        RUNOFF FROM SUBBASIN PC5.
1833          BA  0.0375
1834          LS              77       0
1835          UK     300    .015     .15     100
1836          RK    1900     .01     .03            TRAP      30       4
              *

1837          KK   DPC4A
1838          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1839          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1840          KM
1841          KM        RETRIEVE DIVERTED FLOW
1842          DR  BPC4AT
              *

1843          KK    CPC5
1844          KM        COMBINE PC5 IS ADDED BY GVSCE TO ESTIMATE THE TOTAL FLOW IN THE POWER
1845          KM        LINE CHANNEL AT THE HUALAPAI CROSSING.  THE COMBINED AREA DOES NOT
1846          KM        INCLUDE 0.2236 SQUARE MILES OF AREA DRAINING TO RETENTION BASINS.
1847          KM
1848          KM        COMBINE ROUTED HYDROGRAPH FROM C10SA AND CPC4A WITH HYDROGRAPHS FROM
1849          KM        CGC45, SRGC36 AND PC5
1850          HC       5  3.0039
              *
              *     ******************  END GRAYHAWK WATERSHED  ********************
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1851          KK     RC5
1852          KM       ROUTE CPC5 THROUGH SUBBASIN CN5C TO PIMA FREEWAY EAST-BASIN
1853          RS       1    FLOW      -1
1854          RC    .035    .035    .035    2000    .013
1855          RX       0      16      26      34      64      78      88     106
1856          RY       6       2       2       0       0       2       2       6
              *

1857          KK   SCN5D
1858          KM     RUNOFF FROM SUBBASIN CN5D
1859          BA  0.0499
1860          LS              74       0
1861          UK     100   0.025    0.13     100
1862          RK    3100   0.017    0.04            TRAP       0      15
              *

1863          KK    CN5D
1864          KM        COMBINE ROUTED HYDROGRAPH FROM CPC5 W/RUNOFF FROM SCN5D
1865          HC       2
              *

1866          KK     D52
1867          KM     BRING BACK DIVERTED HYDROGRAPH FROM R52
1868          DR    B52T
              *

1869          KK    S53A
1870          KM     RUNOFF FROM SUBBASIN 53A
1871          BA  0.1794
1872          LS              74      11
1873          UK     300   0.022    0.13     100
1874          RK    1475   0.026   0.045  0.0111    TRAP       3       5
1875          RK    1750   0.021    0.04            TRAP      25       5
              *

1876          KK     C53
1877          KM     COMBINE ROUTED HYDROGRAPH FROM FROM C52 WITH RUNOFF FROM SUBBASIN 53A
1878          HC       2  3.0819
              *
              *    R53
              *   ****  TOO SHORT TO ROUTE  ****
              *

1879          KK   S53A1
1880          KM     RUNOFF FROM SUBBASIN 53A1
1881          BA  0.3376
1882          LS              74      12              74      30
1883          UK     300   0.022    0.13      70
```

```
1884          UK     150   0.027    0.13      30
1885          RK    1250   0.023   0.045  0.0087    TRAP       4       5
1886          RK    5050   0.017    0.04            TRAP      35       5
              *
1                                          HEC-1 INPUT                                                    PAGE 53

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


1887          KK    C53A
1888          KM     COMBINE ROUTED HYDROGRAPH FROM C53 WITH RUNOFF FROM SUBBASSIN 53A1
1889          HC       2
              *

1890          KK   SCN6B
1891          KM     RUNOFF FROM SUBBASIN CN6B (WATER CAMPUS)
1892          KM      TOTAL AREA = 0.0542 sm, 0.0022 sm OF THAT IS NON-CONTRIBUTING
1893          BA  0.0520
1894          LS              74      80              74       0
1895          UK     150    0.01    0.15      70
1896          UK     100   0.025    0.13      30
1897          RK     720    0.02    0.03  0.0084    TRAP       5      10
1898          RK     700    0.01   0.045  0.0050    TRAP       0      10
1899          RK     440   0.009   0.035            TRAP       6       3
              *

1900          KK   SCN6D
1901          KM     RUNOFF FROM SUBBASIN CN6D
1902          KM      TOTAL AREA = 0.0398 sm, 0.0029 sm OF THAT IS NON-CONTRIBUTING
1903          BA  0.0369
1904          LS              74       3
1905          UK     100   0.025    0.13     100
1906          RK    1000   0.017    0.04            TRAP       0      15
              *

1907          KK    CP6D
1908          KM     COMBINE HYDROGRAPHS FROM C53A W/RUNOFF FROM SCN6D
1909          HC       3
              *

1910          KK   SCN6C
1911          KM     RUNOFF FROM SUBBASIN CN6C (CAP TREATMENT PLANT AND WATER CAMPUS)
1912          KM      TOTAL AREA = 0.1526 sm, 0.0138 sm OF THAT IS NON-CONTRIBUTING
1913          BA  0.1388
1914          LS              74      80              74       0
1915          UK     150    0.01    0.15      50
1916          UK     100   0.025    0.13      50
1917          RK    1500    0.01    0.03  0.0123    TRAP       5      10
1918          RK     700   0.017    0.04            TRAP       0      15
              *

1919          KK    CP6C
1920          KM        COMBINE HYDROGRAPH FROM CP6D W/RUNOFF FROM SCN6C
1921          HC       2
              *

1922          KK    CP5D
1923          KM        COMBINE HYDROGRAPHS FROM CP6C AND CP5D
1924          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 54

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


1925          KK   SCN5C
1926          KM     RUNOFF FROM SUBBASIN CN5C
1927          BA  0.1904
1928          LS              74       0
1929          UK     150   0.020    0.13     100
1930          RK    3700  0.0176    0.04            TRAP       0      15
              *

1931          KK   SCN6E
1932          KM     RUNOFF FROM SUBBASIN CN6E
1933          BA  0.0427
1934          LS              74       5
1935          UK      50    0.01    0.13     100
1936          RK    3200   0.002   0.025            TRAP       0      50
              *

1937          KK  EAST-I
1938          KM     COMBINE HYDROGRAPH FROM CP5D WITH W/RUNOFF FROM SCN5C AND SCN6E
1939          HC       3
              *

1940          KK  EAST-O
1941          KM     PIMA FREEWAY BASIN EAST LOCATED NORTH AND EAST OF HAYDEN ROAD T.I.
1942          KM     (2) 96" OUTLET CONDUIT
1943          KM        STAGE-DISCHARGE RATING CURVE REFLECTS NO CLOGGING OF THE TRASHRACK.
1944          KM        9 ACRE-FEET OF STORAGE FOR SEDIMENTAION
1945          KM
1946          RS       1    STOR      -1       0
1947          SV       0    0.35    1.11    3.38   12.19   24.00   36.81   43.59   50.74   58.38
1948          SV   66.49   74.88   83.50   92.36  101.45  110.78  120.36  130.25  140.48  145.06
```

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1949          SQ       0      66     130     291     540     833    1094    1208    1311    1406
1950          SQ    1497    1577    1658    1732    1802    1873    1938    2001    2064    2096
1951          SE  1589.9    1591    1592    1594    1596    1598    1600    1601    1602    1603
1952          SE    1604    1605    1606    1607    1608    1609    1610    1611    1612  1612.5
              *
1953          ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   31       S51.1
                V
                V
   40      DVDB-O
                .
                .
   55           .-------> B51.1T
   53      D51.1T
                .
                .
   58           .       52D4
                .          V
                .          V
   64           .      52D4R
                .          .
                .          .
   67           .          .      52D4B
                .          .          .
                .          .          .
   73           .     52D5C1............
                .          .
                .          .
   76           .          .      52D5A
                .          .          V
                .          .          V
   82           .          .     52D5AR
                .          .          .
                .          .          .
   85           .     52D5C2............
                .          V
                .          V
   88           .      52D5R
                .          .
                .          .
   91           .          .       52C3
                .          .          V
                .          .          V
   97           .          .      52C3R
                .          .          .
                .          .          .
  100           .          .          .      52C3B
                .          .          .          .
                .          .          .          .
  106           .          .     2C3BC1............
                .          .          .
                .          .          .
  109           .     2C3BC2............
                .          V
                .          V
  112           .     52C3BR
                .          .
                .          .
  115           .          .        51C
                .          .          .
                .          .          .
  125           .          .          .-------> 51C1DV
  123           .          .      51C1D
                .          .          V
                .          .          V
  128           .          .      51C1R
                .          .          .
                .          .          .
  131           .          .          .       52C1
                .          .          .          .
                .          .          .          .
  137           .          .      52C1C............
                .          .          V
                .          .          V
  140           .          .      52C1R
                .          .          .
                .          .          .
  143           .          .          .      52C2A
                .          .          .          .
                .          .          .          .
  149           .          .     52C2AC............
                .          .          .
                .          .          .
  152           .          .          .      52C2B
                .          .          .          .
                .          .          .          .
  158           .          .     52C2BC............
                .          .          V
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                 .          .          V
161              .          .     52C2BR
                 .          .          .
                 .          .          .
164              .          .          .       52C2C
                 .          .          .           .
                 .          .          .           .
170              .          .     52C2CC............
                 .          .          V
                 .          .          V
173              .          .      52C2R
                 .          .          .
                 .          .          .
176              .          .          .        52C4
                 .          .          .           .
                 .          .          .           .
182              .          .     52C4C1............
                 .          .          .
                 .          .          .
185              .     52C4C2............
                 .          V
                 .          V
188              .      52C4R
                 .          .
                 .          .
191              .          .      52C13
                 .          .          .
                 .          .          .
199              .          .          .-------> STORM
197              .          .     2C13DV
                 .          .          .
                 .          .          .
202              .          .          .       52C15
                 .          .          .           .
                 .          .          .           .
208              .          .     2C15C1............
                 .          .          .
                 .          .          .
211              .     2C15C2............
                 .          V
                 .          V
214              .     52C15R
                 .          .
                 .          .
217              .          .     52C14A
                 .          .          .
                 .          .          .
223              .     2C14AC............
                 .          V
                 .          V
226              .     2C14AR
                 .          .
                 .          .
231              .          .          .<-------  51C1DV
229              .          .     51C1DV
                 .          .          .
                 .          .          .
234              .          .          .-------> 51C2DV
232              .          .      51C2D
                 .          .          V
                 .          .          V
237              .          .      51C2R
                 .          .          .
                 .          .          .
240              .          .          .        52C5
                 .          .          .           .
                 .          .          .           .
246              .          .      52C5C............
                 .          .          V
                 .          .          V
249              .          .      52C5R
                 .          .          .
                 .          .          .
252              .          .          .        52C6
                 .          .          .           .
                 .          .          .           .
258              .          .      52C6C............
                 .          .          V
                 .          .          V
261              .          .      52C6R
                 .          .          .
                 .          .          .
266              .          .          .           .<-------  51C2DV
264              .          .          .      51C2DV
                 .          .          .          V
                 .          .          .          V
267              .          .          .       51C3R
                 .          .          .           .
                 .          .          .           .
270              .          .          .           .         51B
                 .          .          .           .           .
                 .          .          .           .           .
280              .          .          .           .           .-------> 51B1DV
278              .          .          .           .      51B1D
                 .          .          .           .          V
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                 .         .         .         .         V
283              .         .         .         .     51B1R
                 .         .         .         .         .
                 .         .         .         .         .
286              .         .         .         .         .       52C7
                 .         .         .         .         .         .
                 .         .         .         .         .         .
292              .         .         .     52C7C.......................
                 .         .         .         V
                 .         .         .         V
295              .         .         .     52C7R
                 .         .         .         .
                 .         .         .         .
300              .         .         .         .         .<-------  51B1DV
298              .         .         .         .    51B1DV
                 .         .         .         .         .
                 .         .         .         .         .
303              .         .         .         .         .-------> 51B2DV
301              .         .         .         .     51B2D
                 .         .         .         .         V
                 .         .         .         .         V
306              .         .         .         .     51B2R
                 .         .         .         .         .
                 .         .         .         .         .
309              .         .         .         .         .       52C8
                 .         .         .         .         .         .
                 .         .         .         .         .         .
315              .         .         .         .     52C8C............
                 .         .         .         .         V
                 .         .         .         .         V
318              .         .         .         .     52C8R
                 .         .         .         .         .
                 .         .         .         .         .
321              .         .         .     52C9C1............
                 .         .         .         V
                 .         .         .         V
324              .         .         .     52C9R1
                 .         .         .         .
                 .         .         .         .
327              .         .         .         .       52C9
                 .         .         .         .         .
                 .         .         .         .         .
333              .         .         .     52C9C2............
                 .         .         .         V
                 .         .         .         V
336              .         .         .     52C9R2
                 .         .         .         .
                 .         .         .         .
339              .         .    2C10C1............
                 .         .         V
                 .         .         V
342              .         .    2C10R1
                 .         .         .
                 .         .         .
345              .         .         .      52C10
                 .         .         .         .
                 .         .         .         .
351              .         .    2C10C2............
                 .         .         .
                 .         .         .
354              .         .         .      52C11
                 .         .         .         V
                 .         .         .         V
360              .         .         .     2C11R1
                 .         .         .         .
                 .         .         .         .
365              .         .         .         .         .<-------   STORM
363              .         .         .         .    52C13D
                 .         .         .         .         .
                 .         .         .         .         .
366              .         .         .     52C11C............
                 .         .         .         V
                 .         .         .         V
369              .         .         .     2C11CR
                 .         .         .         .
                 .         .         .         .
372              .         .    2C11C2............
                 .         .         V
                 .         .         V
375              .         .    2C11R2
                 .         .         .
                 .         .         .
378              .         .         .      52C12
                 .         .         .         .
                 .         .         .         .
384              .         .    52C12C............
                 .         .         V
                 .         .         V
387              .         .    52C12R
                 .         .         .
                 .         .         .
390              .         .         .     52C14B
                 .         .         .         .
                 .         .         .         .
396              .         .    C14BC1............
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                .          .          .
                .          .          .
399             .     C14BC2...........
                .          V
                .          V
402             .     52C14R
                .          .
                .          .
407             .          .          .<-------  51B2DV
405             .          .     51B2DV
                .          .          .
                .          .          .
410             .          .          .------->  51B3DV
408             .          .      51B3D
                .          .          V
                .          .          V
413             .          .      51B3R
                .          .          .
                .          .          .
416             .          .          .        52B1
                .          .          .           .
                .          .          .           .
422             .          .      52B1C...........
                .          .          V
                .          .          V
425             .          .      52B1R
                .          .          .
                .          .          .
430             .          .          .           .<-------  51B3DV
428             .          .          .     51B3DV
                .          .          .           .
                .          .          .           .
433             .          .          .           .------->  51B4DV
431             .          .          .       51B4D
                .          .          .           V
                .          .          .           V
436             .          .          .     51B4R1
                .          .          .           .
                .          .          .           .
439             .          .     52B2C1...........
                .          .          V
                .          .          V
442             .          .     52B2R1
                .          .          .
                .          .          .
445             .          .          .        52B2
                .          .          .           .
                .          .          .           .
451             .          .     52B2C2...........
                .          .          V
                .          .          V
454             .          .     52B2R2
                .          .          V
                .          .          V
457             .          .     52B3R1
                .          .          .
                .          .          .
460             .          .          .        52B3
                .          .          .           .
                .          .          .           .
466             .          .     52B3C2...........
                .          .          V
                .          .          V
469             .          .     52B3R2
                .          .          .
                .          .          .
472             .          .          .        52B4
                .          .          .           .
                .          .          .           .
478             .          .      52B4C...........
                .          .          V
                .          .          V
481             .          .      52B4R
                .          .          .
                .          .          .
484             .          .          .        52B5
                .          .          .           .
                .          .          .           .
490             .          .     52B5C1...........
                .          .          .
                .          .          .
493             .     52B5C2...........
                .          V
                .          V
496             .      52B5R
                .          .
                .          .
501             .          .          .<-------  51B4DV
499             .          .     51B4DV
                .          .          .
                .          .          .
504             .          .          .------->  51B5DV
502             .          .      51B5D
                .          .          V
                .          .          V
```

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507          .           .       51B5R
             .           .           .
             .           .           .
512          .           .           .           .<-------  51B5DV
510          .           .           .      51B5DV
             .           .           .           .
             .           .           .           .
515          .           .           .           .------->  51B6DV
513          .           .           .      51B6D
             .           .           .          V
             .           .           .          V
518          .           .           .      51B6R
             .           .           .           .
             .           .           .           .
523          .           .           .           .           .<-------  51B6DV
521          .           .           .           .      51B6DV
             .           .           .           .           .
             .           .           .           .           .
526          .           .           .           .           .------->  51B7DV
524          .           .           .           .       51B7D
             .           .           .           .           V
             .           .           .           .           V
529          .           .           .           .      51B7R1
             .           .           .           .           .
             .           .           .           .           .
532          .           .       51B7C.......................
             .           .           V
             .           .           V
535          .           .      51B7R2
             .           .           .
             .           .           .
538          .           .           .        52B6
             .           .           .           .
             .           .           .           .
544          .           .       52B6C............
             .           .           V
             .           .           V
547          .           .       52B6R
             .           .           .
             .           .           .
550          .           .           .        52B7
             .           .           .           .
             .           .           .           .
556          .           .      52B7C1............
             .           .           .
             .           .           .
559          .      52B7C2............
             .           .
             .           .
562          .           .        52A2
             .           .           .
             .           .           .
568          .      52A2C2............
             .           .
             .           .
573          .           .           .<-------  51B7DV
571          .           .      51B7DV
             .           .           V
             .           .           V
574          .           .       51B8R
             .           .           .
             .           .           .
577          .           .           .        52A1
             .           .           .           .
             .           .           .           .
583          .           .       52A1C............
             .           .           .
             .           .           .
588          .           .           .           .<-------  B51.1T
586          .           .           .      D51.1
             .           .           .           .
             .           .           .           .
589          .           .        C52A............
             .           .           .
             .           .           .
593          .         C52............
             .           V
             .           V
597          .         R52
             .           .
             .           .
604          .           .------->    B52T
602          .        D52T
             .           .
             .           .
607       CLEAR............
             .
             .
610          .          1B
             .           V
             .           V
617          .       37AE1
             .           .
             .           .
624          .           .       SUB5N
```

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                .          .          .
                .          .          .
631             .      CP5N............
                .         V
                .         V
634             .     RET5N
                .         V
                .         V
641             .     R6N.1
                .          .
                .          .
649             .          .     SUB6B
                .          .        V
                .          .        V
655             .          .      SR6B
                .          .          .
                .          .          .
661             .     CP6.1............
                .          .
                .          .
664             .          .     SUB1N
                .          .        V
                .          .        V
670             .          .      R2NA
                .          .          .
                .          .          .
676             .          .          .      SUB2NA
                .          .          .          .
                .          .          .          .
682             .          .     CP2NA............
                .          .        V
                .          .        V
685             .          .     SR2NA
                .          .        V
                .          .        V
691             .          .      R2NB
                .          .          .
                .          .          .
697             .          .          .      SUB2NB
                .          .          .          .
                .          .          .          .
703             .          .     CP2NB............
                .          .        V
                .          .        V
706             .          .     SR2NB
                .          .        V
                .          .        V
712             .          .     RCP4N
                .          .          .
                .          .          .
718             .          .          .       SUB6N
                .          .          .          V
                .          .          .          V
724             .          .          .       RET6N
                .          .          .          V
                .          .          .          V
730             .          .          .      RCP4N1
                .          .          .          .
                .          .          .          .
736             .          .    CP4N.1............
                .          .          .
                .          .          .
739             .          .          .       SUB3N
                .          .          .          V
                .          .          .          V
745             .          .          .       RET3N
                .          .          .          V
                .          .          .          V
752             .          .          .         R4N
                .          .          .          .
                .          .          .          .
758             .          .    CP4N.2............
                .          .          .
                .          .          .
761             .          .          .       SUB4N
                .          .          .          .
                .          .          .          .
767             .          .      CP4N............
                .          .        V
                .          .        V
770             .          .       R6N
                .          .          .
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776             .          .          .       SUB6A
                .          .          .          .
                .          .          .          .
782             .          .     CP6.2............
                .          .          .
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785             .      CP6N............
                .         V
                .         V
788             .     RCP6N
                .          .
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794          .           .       SUB3C
             .           .           .
             .           .           .
800          .        CP3C............
             .           V
             .           V
803          .         R3C
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             .           .
811          .           .      GC1018
             .           .           .
             .           .           .
817          .           .           .       GC1-9
             .           .           .           .
             .           .           .           .
823          .           .           .           .       SUB3S
             .           .           .           .           .
             .           .           .           .           .
829          .        CP3S...................................
             .           V
             .           V
832          .        RT3S
             .           .
             .           .
838          .           .       SUB4S
             .           .           V
             .           .           V
844          .           .        RT4S
             .           .           .
             .           .           .
850          .           .           .       GC2-8
             .           .           .           .
             .           .           .           .
856          .      1PGC28........................
             .           .
             .           .
859          .           .      SUB3D3
             .           .           .
             .           .           .
865          .      CPGC28............
             .           V
             .           V
868          .      SRGC28
             .           V
             .           V
874          .        RT7S
             .           .
             .           .
880          .           .         GC7
             .           .           .
             .           .           .
886          .        CP7S............
             .           .
             .           .
894          .           .-------->    B7ST
889          .        D7ST
             .           .
             .           .
897     CLEAR............
             .
             .
900          .      SUB3D1
             .           V
             .           V
905          .       RD1B1
             .           .
             .           .
911          .           .      SUB3B1
             .           .           .
             .           .           .
916          .       CP3B1............
             .           V
             .           V
919          .       RB13F
             .           .
             .           .
925          .           .       SUB3F
             .           .           .
             .           .           .
931          .        CP3F............
             .           .
             .           .
934          .           .      SUB3B2
             .           .           V
             .           .           V
939          .           .       RB2E1
             .           .           V
             .           .           V
945          .           .       RB2E2
             .           .           .
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951          .           .           .      SUB3E1
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956          .           .      1CPE31............
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 959            .          .          .     SUB3D2
                .          .          .         V
                .          .          .         V
 964            .          .          .      RD2E2
                .          .          .          .
                .          .          .          .
 970            .          .          .          .      SUB3E2
                .          .          .          .          .
                .          .          .          .          .
 975            .          .          .      CP3E2............
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                .          .          .          .
 978            .          .          .          .         PC3
                .          .          .          .          .
                .          .          .          .          .
 987            .       CPC3..................................
                .          .
                .          .
 999            .          .-------->   BPC3T
 994            .      DPC3T
                .          .
                .          .
1002            .          .     SUB3E3
                .          .          .
                .          .          .
1007            .          .          .        PC4
                .          .          .          .
                .          .          .          .
1021            .          .          .          .          .<-------    B7ST
1016            .          .          .          .         D7S
                .          .          .          .          .
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1022            .          .       CPC4........................
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1033            .          .          .-------->   BPC4T
1028            .          .     DPC4T
                .          .          .
                .          .          .
1036       CLEAR........................
                .
                .
1039            .       1A1
                .         V
                .         V
1046            .      R1A1
                .          .
                .          .
1052            .          .       1A2
                .          .          .
                .          .          .
1059            .       C1A............
                .         V
                .         V
1062            .      R14R
                .         V
                .         V
1069            .    RET141
                .         V
                .         V
1076            .     R14.1
                .          .
                .          .
1083            .          .     SUB13N
                .          .         V
                .          .         V
1089            .          .      R14.1
                .          .          .
                .          .          .
1095            .          .          .     SUB14N
                .          .          .          .
                .          .          .          .
1101            .      CP14........................
                .         V
                .         V
1104            .     RET14
                .         V
                .         V
1111            .     R18.1
                .          .
                .          .
1117            .          .     SUB20N
                .          .         V
                .          .         V
1123            .          .       R19
                .          .          .
                .          .          .
1129            .          .          .     SUB19N
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1135            .          .      CP19N............
                .          .         V
                .          .         V
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1138          .           .       R18NC
              .           .          .
              .           .          .
1144          .           .          .      UB18NC
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              .           .          .          .
1150          .      CP18NC.......................
              .           V
              .           V
1153          .        RPC1
              .           .
              .           .
1159          .           .      UB18NA
              .           .          V
              .           .          V
1165          .           .       1RPC1
              .           .          .
              .           .          .
1171          .           .          .      UB18NB
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1177          .           .          .       2RPC1
              .           .          .          .
              .           .          .          .
1183          .           .          .          .         PC1
              .           .          .          .           .
              .           .          .          .           .
1189          .           .       1CPC1.......................
              .           .          V
              .           .          V
1192          .           .       SRPC1
              .           .          .
              .           .          .
1198          .        CPC1............
              .           V
              .           V
1201          .      R16NA1
              .           .
              .           .
1207          .           .      UB16NA
              .           .          V
              .           .          V
1213          .           .      R16NA1
              .           .          .
              .           .          .
1219          .      C16NA1............
              .           V
              .           V
1222          .      R16NB1
              .           .
              .           .
1228          .           .      UB16NB
              .           .          V
              .           .          V
1234          .           .      R16NB1
              .           .          .
              .           .          .
1240          .      C16NB1............
              .           V
              .           V
1243          .      R16NC1
              .           .
              .           .
1249          .           .       SUB7N
              .           .          V
              .           .          V
1255          .           .        R8NC
              .           .          .
              .           .          .
1261          .           .          .      SUB8NA
              .           .          .          V
              .           .          .          V
1267          .           .          .       SR8NA
              .           .          .          V
              .           .          .          V
1273          .           .          .        R8NB
              .           .          .          .
              .           .          .          .
1279          .           .          .          .      SUB8NB
              .           .          .          .          .
              .           .          .          .          .
1285          .           .          .       CP8NB............
              .           .          .          V
              .           .          .          V
1288          .           .          .       SR8NB
              .           .          .          V
              .           .          .          V
1294          .           .          .        R8NC
              .           .          .          .
              .           .          .          .
1300          .           .          .          .      SUB8NC
              .           .          .          .          .
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1306          .           .       CP8NC.......................
              .           .          V
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                 .         .         V
1309             .         .      SR8NC
                 .         .         V
                 .         .         V
1315             .         .       R9N
                 .         .         .
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1321             .         .         .      SUB9N
                 .         .         .         .
                 .         .         .         .
1327             .         .      CP9N...........
                 .         .         V
                 .         .         V
1330             .         .      R10B
                 .         .         .
                 .         .         .
1336             .         .         .     SUB10B
                 .         .         .         .
                 .         .         .         .
1343             .         .     CP10B...........
                 .         .         V
                 .         .         V
1346             .         .     R11NA
                 .         .         .
                 .         .         .
1352             .         .         .     UB11NA
                 .         .         .         .
                 .         .         .         .
1358             .         .    CP11NA...........
                 .         .         V
                 .         .         V
1361             .         .    SR11NA
                 .         .         V
                 .         .         V
1367             .         .     R11NB
                 .         .         .
                 .         .         .
1373             .         .         .     UB11NB
                 .         .         .         .
                 .         .         .         .
1379             .         .    CP11NB...........
                 .         .         V
                 .         .         V
1382             .         .    SR11NB
                 .         .         V
                 .         .         V
1388             .         .     R11NC
                 .         .         .
                 .         .         .
1394             .         .         .     UB11NC
                 .         .         .         .
                 .         .         .         .
1400             .         .    C11NC1...........
                 .         .         .
                 .         .         .
1403             .         .         .     SUB10A
                 .         .         .         V
                 .         .         .         V
1410             .         .         .      R12NB
                 .         .         .         .
                 .         .         .         .
1416             .         .         .         .     UB12NA
                 .         .         .         .         V
                 .         .         .         .         V
1422             .         .         .         .     SR12NA
                 .         .         .         .         V
                 .         .         .         .         V
1428             .         .         .         .      R12NA
                 .         .         .         .         .
                 .         .         .         .         .
1434             .         .         .         .         .     UB12NB
                 .         .         .         .         .         .
                 .         .         .         .         .         .
1440             .         .         .     CP12NB.......................
                 .         .         .         V
                 .         .         .         V
1443             .         .         .     SR12NB
                 .         .         .         V
                 .         .         .         V
1449             .         .         .     R11NC2
                 .         .         .         .
                 .         .         .         .
1455             .         .    CP11NC...........
                 .         .         V
                 .         .         V
1458             .         .    SR11NC
                 .         .         V
                 .         .         V
1465             .         .     R16NC
                 .         .         .
                 .         .         .
1471             .         .         .     UB16NC
                 .         .         .         .
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1477             .         .    CP16NC...........
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                 .          .          V
                 .          .          V
1480             .          .     R16NC1
                 .          .          .
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1486             .     C16NC1...........
                 .          V
                 .          V
1489             .      R15N1
                 .          .
                 .          .
1495             .          .        PC2
                 .          .          .
                 .          .          .
1501             .     CP15N1...........
                 .          V
                 .          V
1504             .      SRPC2
                 .          .
                 .          .
1511             .          .     UB17NA
                 .          .          V
                 .          .          V
1517             .          .     SR17NA
                 .          .          V
                 .          .          V
1523             .          .      R17NB
                 .          .          .
                 .          .          .
1529             .          .          .     UB17NB
                 .          .          .          .
                 .          .          .          .
1535             .          .     CP17NB...........
                 .          .          V
                 .          .          V
1538             .          .     SR17NB
                 .          .          V
                 .          .          V
1544             .          .       R17A
                 .          .          .
                 .          .          .
1550             .          .          .     SUB17A
                 .          .          .          .
                 .          .          .          .
1556             .          .     CP17A1...........
                 .          .          .
                 .          .          .
1559             .          .          .     UB17NC
                 .          .          .          .
                 .          .          .          .
1565             .          .      CP17A...........
                 .          .          V
                 .          .          V
1568             .          .       R15N
                 .          .          .
                 .          .          .
1574             .          .          .     SUB15N
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1581             .          .      CP15N...........
                 .          .          V
                 .          .          V
1584             .          .      R15N2
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                 .          .          .
1590             .     CP15N2...........
                 .          V
                 .          V
1594             .      R15N2
                 .          .
                 .          .
1608             .          .          .<-------   BPC3T
1603             .          .       DPC3
                 .          .          .
                 .          .          .
1609             .      CPC3A...........
                 .          V
                 .          V
1615             .      RPC3A
                 .          .
                 .          .
1629             .          .          .<-------   BPC4T
1624             .          .       DPC4
                 .          .          .
                 .          .          .
1630             .      CPC4A...........
                 .          V
                 .          V
1636             .      RPC4A
                 .          .
                 .          .
1650             .          .-------> BPC4AT
1645             .     DPC4AT
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1653          .           .      SUB1-2
              .           .          .
              .           .          .
1659          .           .          .      GCRB18
              .           .          .          .
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1666          .           .      CPRET1............
              .           .          V
              .           .          V
1669          .           .       SR18S
              .           .          .
              .           .          .
1675          .           .          .       SUB5S
              .           .          .          .
              .           .          .          .
1681          .           .          .          .      GC1216
              .           .          .          .          .
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1687          .           .          .          .          .      GC1415
              .           .          .          .          .          .
              .           .          .          .          .          .
1693          .           .          .          .          .          .      SUB6S
              .           .          .          .          .          .          .
              .           .          .          .          .          .          .
1699          .           .          .          .          .          .          .      SUB7S
              .           .          .          .          .          .          .          .
              .           .          .          .          .          .          .          .
1705          .           .          .      CPRET2..............................................
              .           .          .          V
              .           .          .          V
1708          .           .          .      SRRET2
              .           .          .          .
              .           .          .          .
1714          .           .      CLEAR............
              .           .          .
              .           .          .
1719          .           .          .       SUB8S
              .           .          .          V
              .           .          .          V
1725          .           .          .       RGC36
              .           .          .          .
              .           .          .          .
1731          .           .          .          .        GC36
              .           .          .          .          .
              .           .          .          .          .
1737          .           .          .      C1GC36............
              .           .          .          .
              .           .          .          .
1740          .           .          .          .       SUB9S
              .           .          .          .          V
              .           .          .          .          V
1746          .           .          .          .         R9S
              .           .          .          .          .
              .           .          .          .          .
1752          .           .          .      CPGC36............
              .           .          .          V
              .           .          .          V
1755          .           .          .      SRGC36
              .           .          .          .
              .           .          .          .
1761          .           .          .          .       SUB7A
              .           .          .          .          V
              .           .          .          .          V
1767          .           .          .          .        SR7A
              .           .          .          .          V
              .           .          .          .          V
1773          .           .          .          .        R10S
              .           .          .          .          .
              .           .          .          .          .
1779          .           .          .          .          .      SUB10S
              .           .          .          .          .          .
              .           .          .          .          .          .
1785          .           .          .          .       CP10S............
              .           .          .          .          .
              .           .          .          .          .
1788          .           .          .          .          .      SUB11S
              .           .          .          .          .          V
              .           .          .          .          .          V
1794          .           .          .          .          .       R11S
              .           .          .          .          .          .
              .           .          .          .          .          .
1803          .           .          .          .       C10SA............
              .           .          .          .          V
              .           .          .          .          V
1808          .           .          .          .       R10SA
              .           .          .          .          .
              .           .          .          .          .
1817          .           .          .          .          .       GC45
              .           .          .          .          .          .
              .           .          .          .          .          .
1823          .           .          .          .       CGC45............
              .           .          .          .          .
              .           .          .          .          .
1828          .           .          .          .          .        PC5
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1842                                                                  .<-------  BPC4AT
1837                                                            DPC4A
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1843                  CPC5.............................................
                        V
                        V
1851                  RC5
                        .
                        .
1857                    .       SCN5D
                        .         .
                        .         .
1863                  CN5D............
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1868                    .           .<-------    B52T
1866                    .       D52
                        .         .
                        .         .
1869                    .         .       S53A
                        .         .         .
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1876                    .       C53............
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                        .         .
1879                    .         .       S53A1
                        .         .         .
                        .         .         .
1887                    .       C53A............
                        .         .
                        .         .
1890                    .         .       SCN6B
                        .         .         .
                        .         .         .
1900                    .         .         .       SCN6D
                        .         .         .         .
                        .         .         .         .
1907                    .       CP6D........................
                        .         .
                        .         .
1910                    .         .       SCN6C
                        .         .         .
                        .         .         .
1919                    .       CP6C............
                        .         .
                        .         .
1922                  CP5D............
                        .
                        .
1925                    .       SCN5C
                        .         .
                        .         .
1931                    .         .       SCN6E
                        .         .         .
                        .         .         .
1937                  EAST-I........................
                        V
                        V
1940                  EAST-O
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  02/25/99  TIME  08:15:49   *
*****************************************
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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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PIMA ROAD THREE BASINS — File: EX100-6.IH1
by Stantec for the City of Scottsdale — Original: 08-07-97 mcg
Project: 28900082 — Revised: 01-20-99 mcg

100-YEAR, 6-HOUR STORM
INTERIM CONDITION:
NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF
FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.

THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
DEI FILE NAME: GH23FAB.H1I
MODEL DATE: 21 MAY 96

THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES

```
                                WOOD/PATEL FILE NAME:  DC0721C.DAT
                                MODEL DATE:            4 JANUARY 96


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

    IT          HYDROGRAPH TIME DATA
                       NMIN          5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1   0  STARTING DATE
                      ITIME       0000  STARTING TIME
                         NQ        720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      3   0  ENDING DATE
                     NDTIME       1155  ENDING TIME
                      ICENT         19  CENTURY MARK

                  COMPUTATION INTERVAL    0.08 HOURS
                       TOTAL TIME BASE   59.92 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

 25 JD          INDEX STORM NO. 1
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        0.01  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 26 JD          INDEX STORM NO. 2
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        0.10  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 27 JD          INDEX STORM NO. 3
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        0.50  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 28 JD          INDEX STORM NO. 4
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        1.00  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 29 JD          INDEX STORM NO. 5
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        5.00  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 30 JD          INDEX STORM NO. 6
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA       25.00  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
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*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

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WARNING --- ROUTED OUTFLOW (    753.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    779.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    752.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    778.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    775.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    771.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE

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WARNING --- ROUTED OUTFLOW (    993.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    983.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    895.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    992.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (    986.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    979.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    891.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    980.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    974.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    888.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    932.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    941.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    864.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE

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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	S51.1	1058.	3.50	162.	41.	16.	1.13		
+	ROUTED TO	DVDB-O	246.	4.25	162.	41.	16.	1.13		
+	DIVERSION TO	B51.1T	246.	4.25	162.	41.	16.	1.13		
+	HYDROGRAPH AT	D51.1T	0.	0.08	0.	0.	0.	1.13		
+	HYDROGRAPH AT	52D4	116.	3.25	11.	3.	1.	0.07		
+	ROUTED TO	52D4R	106.	3.25	11.	3.	1.	0.07		
+	HYDROGRAPH AT	52D4B	70.	3.17	6.	1.	1.	0.02		
+	2 COMBINED AT	52D5C1	161.	3.25	17.	4.	2.	0.09		
+	HYDROGRAPH AT	52D5A	79.	3.17	6.	2.	1.	0.02		
+	ROUTED TO	52D5AR	75.	3.17	6.	2.	1.	0.02		
+	2 COMBINED AT	52D5C2	217.	3.25	23.	6.	2.	0.12		
+	ROUTED TO	52D5R	216.	3.25	23.	6.	2.	0.12		
+	HYDROGRAPH AT	52C3	24.	3.08	2.	0.	0.	0.01		
+	ROUTED TO	52C3R	23.	3.17	2.	0.	0.	0.01		
+	HYDROGRAPH AT	52C3B	53.	3.08	4.	1.	0.	0.02		

+	2 COMBINED AT	2C3BC1	74.	3.17	6.	1.	1.	0.02
+	2 COMBINED AT	2C3BC2	270.	3.17	29.	7.	3.	0.14
+	ROUTED TO	52C3BR	261.	3.25	29.	7.	3.	0.14
+	HYDROGRAPH AT	51C	114.	3.25	11.	3.	1.	0.10
+	DIVERSION TO	51C1DV	76.	3.25	7.	2.	1.	0.10
+	HYDROGRAPH AT	51C1D	38.	3.25	3.	1.	0.	0.10
+	ROUTED TO	51C1R	34.	3.33	3.	1.	0.	0.10
+	HYDROGRAPH AT	52C1	69.	3.17	5.	1.	0.	0.03
+	2 COMBINED AT	52C1C	81.	3.17	8.	2.	1.	0.06
+	ROUTED TO	52C1R	77.	3.25	8.	2.	1.	0.06
+	HYDROGRAPH AT	52C2A	35.	3.17	2.	1.	0.	0.02
+	2 COMBINED AT	52C2AC	102.	3.25	11.	3.	1.	0.08
+	HYDROGRAPH AT	52C2B	56.	3.17	4.	1.	0.	0.03
+	2 COMBINED AT	52C2BC	154.	3.17	15.	4.	2.	0.11
+	ROUTED TO	52C2BR	148.	3.25	15.	4.	2.	0.11
+	HYDROGRAPH AT	52C2C	46.	3.08	4.	1.	0.	0.01
+	2 COMBINED AT	52C2CC	173.	3.25	19.	5.	2.	0.12
+	ROUTED TO	52C2R	164.	3.25	19.	5.	2.	0.12
+	HYDROGRAPH AT	52C4	56.	3.17	4.	1.	0.	0.02
+	2 COMBINED AT	52C4C1	195.	3.25	23.	6.	2.	0.14
+	2 COMBINED AT	52C4C2	455.	3.25	52.	13.	5.	0.28
+	ROUTED TO	52C4R	447.	3.25	52.	13.	5.	0.28
+	HYDROGRAPH AT	52C13	69.	3.08	5.	1.	0.	0.02
+	DIVERSION TO	STORM	40.	3.08	4.	1.	0.	0.02
+	HYDROGRAPH AT	2C13DV	29.	3.08	1.	0.	0.	0.02
+	HYDROGRAPH AT	52C15	157.	3.08	13.	3.	1.	0.05
+	2 COMBINED AT	2C15C1	186.	3.08	13.	3.	1.	0.05
+	2 COMBINED AT	2C15C2	537.	3.17	65.	16.	7.	0.32
+	ROUTED TO	52C15R	530.	3.25	65.	16.	7.	0.32
+	HYDROGRAPH AT	52C14A	142.	3.17	11.	3.	1.	0.04
+	2 COMBINED AT	2C14AC	648.	3.17	76.	19.	8.	0.36
	ROUTED TO							

+		2C14AR	630.	3.17	76.	19.	8.	0.36
+	HYDROGRAPH AT	51C1DV	76.	3.25	7.	2.	1.	0.10
+	DIVERSION TO	51C2DV	21.	3.25	2.	0.	0.	0.10
+	HYDROGRAPH AT	51C2D	56.	3.25	5.	1.	1.	0.10
+	ROUTED TO	51C2R	51.	3.25	5.	1.	1.	0.10
+	HYDROGRAPH AT	52C5	40.	3.17	3.	1.	0.	0.02
+	2 COMBINED AT	52C5C	74.	3.25	8.	2.	1.	0.06
+	ROUTED TO	52C5R	73.	3.33	8.	2.	1.	0.06
+	HYDROGRAPH AT	52C6	82.	3.17	7.	2.	1.	0.04
+	2 COMBINED AT	52C6C	127.	3.25	15.	4.	2.	0.10
+	ROUTED TO	52C6R	124.	3.25	15.	4.	2.	0.10
+	HYDROGRAPH AT	51C2DV	21.	3.25	2.	0.	0.	0.10
+	ROUTED TO	51C3R	19.	3.25	2.	0.	0.	0.10
+	HYDROGRAPH AT	51B	441.	3.42	61.	15.	6.	0.57
+	DIVERSION TO	51B1DV	406.	3.42	57.	14.	6.	0.57
+	HYDROGRAPH AT	51B1D	35.	3.42	5.	1.	0.	0.57
+	ROUTED TO	51B1R	35.	3.42	5.	1.	0.	0.57
+	HYDROGRAPH AT	52C7	18.	3.08	1.	0.	0.	0.01
+	3 COMBINED AT	52C7C	53.	3.33	8.	2.	1.	0.07
+	ROUTED TO	52C7R	52.	3.42	8.	2.	1.	0.07
+	HYDROGRAPH AT	51B1DV	406.	3.42	57.	14.	6.	0.57
+	DIVERSION TO	51B2DV	341.	3.42	47.	12.	5.	0.57
+	HYDROGRAPH AT	51B2D	65.	3.42	9.	2.	1.	0.57
+	ROUTED TO	51B2R	63.	3.42	9.	2.	1.	0.57
+	HYDROGRAPH AT	52C8	21.	3.08	1.	0.	0.	0.01
+	2 COMBINED AT	52C8C	68.	3.42	11.	3.	1.	0.45
+	ROUTED TO	52C8R	67.	3.50	11.	3.	1.	0.45
+	2 COMBINED AT	52C9C1	117.	3.42	18.	5.	2.	0.52
+	ROUTED TO	52C9R1	116.	3.50	18.	5.	2.	0.52
+	HYDROGRAPH AT	52C9	174.	3.17	14.	3.	1.	0.07
+	2 COMBINED AT	52C9C2	215.	3.17	32.	8.	3.	0.59
+	ROUTED TO	52C9R2	206.	3.25	32.	8.	3.	0.59

+	2 COMBINED AT	2C10C1	328.	3.25	47.	12.	5.	0.69
+	ROUTED TO	2C10R1	326.	3.25	47.	12.	5.	0.69
+	HYDROGRAPH AT	52C10	28.	3.17	2.	1.	0.	0.01
+	2 COMBINED AT	2C10C2	341.	3.25	49.	12.	5.	0.70
+	HYDROGRAPH AT	52C11	96.	3.17	8.	2.	1.	0.04
+	ROUTED TO	2C11R1	88.	3.17	8.	2.	1.	0.04
+	HYDROGRAPH AT	52C13D	40.	3.08	4.	1.	0.	0.02
+	2 COMBINED AT	52C11C	128.	3.17	12.	3.	1.	0.07
+	ROUTED TO	2C11CR	120.	3.17	12.	3.	1.	0.07
+	2 COMBINED AT	2C11C2	455.	3.25	61.	15.	6.	0.77
+	ROUTED TO	2C11R2	450.	3.25	61.	15.	6.	0.77
+	HYDROGRAPH AT	52C12	119.	3.08	7.	2.	1.	0.02
+	2 COMBINED AT	52C12C	487.	3.25	68.	17.	7.	0.79
+	ROUTED TO	52C12R	480.	3.25	68.	17.	7.	0.79
+	HYDROGRAPH AT	52C14B	76.	3.08	6.	1.	1.	0.02
+	2 COMBINED AT	C14BC1	515.	3.25	74.	19.	7.	0.81
+	2 COMBINED AT	C14BC2	1118.	3.25	150.	38.	15.	1.17
+	ROUTED TO	52C14R	1117.	3.25	150.	38.	15.	1.17
+	HYDROGRAPH AT	51B2DV	341.	3.42	47.	12.	5.	0.57
+	DIVERSION TO	51B3DV	286.	3.42	40.	10.	4.	0.57
+	HYDROGRAPH AT	51B3D	55.	3.42	8.	2.	1.	0.57
+	ROUTED TO	51B3R	53.	3.42	8.	2.	1.	0.57
+	HYDROGRAPH AT	52B1	8.	3.08	1.	0.	0.	0.00
+	2 COMBINED AT	52B1C	55.	3.42	8.	2.	1.	0.07
+	ROUTED TO	52B1R	54.	3.50	8.	2.	1.	0.07
+	HYDROGRAPH AT	51B3DV	286.	3.42	40.	10.	4.	0.57
+	DIVERSION TO	51B4DV	235.	3.42	33.	8.	3.	0.57
+	HYDROGRAPH AT	51B4D	52.	3.42	7.	2.	1.	0.57
+	ROUTED TO	51B4R1	50.	3.50	7.	2.	1.	0.57
+	2 COMBINED AT	52B2C1	104.	3.50	15.	4.	2.	0.14
+	ROUTED TO	52B2R1	103.	3.50	15.	4.	2.	0.14
+	HYDROGRAPH AT	52B2	69.	3.17	5.	1.	1.	0.03

	2 COMBINED AT							
+		52B2C2	121.	3.50	21.	5.	2.	0.17
	ROUTED TO							
+		52B2R2	121.	3.50	21.	5.	2.	0.17
	ROUTED TO							
+		52B3R1	120.	3.50	21.	5.	2.	0.17
	HYDROGRAPH AT							
+		52B3	141.	3.17	12.	3.	1.	0.06
	2 COMBINED AT							
+		52B3C2	211.	3.25	33.	8.	3.	0.23
	ROUTED TO							
+		52B3R2	205.	3.25	33.	8.	3.	0.23
	HYDROGRAPH AT							
+		52B4	87.	3.17	7.	2.	1.	0.03
	2 COMBINED AT							
+		52B4C	255.	3.25	39.	10.	4.	0.26
	ROUTED TO							
+		52B4R	250.	3.25	39.	10.	4.	0.26
	HYDROGRAPH AT							
+		52B5	69.	3.08	5.	1.	1.	0.02
	2 COMBINED AT							
+		52B5C1	286.	3.25	45.	11.	5.	0.28
	2 COMBINED AT							
+		52B5C2	1393.	3.25	194.	49.	20.	1.45
	ROUTED TO							
+		52B5R	1381.	3.25	194.	49.	20.	1.45
	HYDROGRAPH AT							
+		51B4DV	235.	3.42	33.	8.	3.	0.57
	DIVERSION TO							
+		51B5DV	160.	3.42	22.	6.	2.	0.57
	HYDROGRAPH AT							
+		51B5D	75.	3.42	10.	3.	1.	0.57
	ROUTED TO							
+		51B5R	73.	3.50	10.	3.	1.	0.57
	HYDROGRAPH AT							
+		51B5DV	160.	3.42	22.	6.	2.	0.57
	DIVERSION TO							
+		51B6DV	85.	3.42	12.	3.	1.	0.57
	HYDROGRAPH AT							
+		51B6D	75.	3.42	10.	3.	1.	0.57
	ROUTED TO							
+		51B6R	72.	3.42	10.	3.	1.	0.57
	HYDROGRAPH AT							
+		51B6DV	85.	3.42	12.	3.	1.	0.57
	DIVERSION TO							
+		51B7DV	49.	3.42	7.	2.	1.	0.57
	HYDROGRAPH AT							
+		51B7D	36.	3.42	5.	1.	0.	0.57
	ROUTED TO							
+		51B7R1	35.	3.42	5.	1.	1.	0.57
	3 COMBINED AT							
+		51B7C	179.	3.42	26.	7.	3.	0.24
	ROUTED TO							
+		51B7R2	179.	3.50	26.	7.	3.	0.24
	HYDROGRAPH AT							
+		52B6	190.	3.17	15.	4.	2.	0.10
	2 COMBINED AT							
+		52B6C	231.	3.50	41.	10.	4.	0.34
	ROUTED TO							
+		52B6R	230.	3.50	41.	10.	4.	0.34
	HYDROGRAPH AT							
+		52B7	303.	3.17	24.	6.	2.	0.08
	2 COMBINED AT							

+	52B7C1	383.	3.17	64.	16.	7.	0.42
+ 2 COMBINED AT	52B7C2	1729.	3.25	257.	65.	26.	1.87
+ HYDROGRAPH AT	52A2	263.	3.17	21.	5.	2.	0.06
+ 2 COMBINED AT	52A2C2	1892.	3.25	279.	71.	28.	1.62
+ HYDROGRAPH AT	51B7DV	49.	3.42	7.	2.	1.	0.57
+ ROUTED TO	51B8R	47.	3.58	7.	2.	1.	0.57
+ HYDROGRAPH AT	52A1	340.	3.17	26.	6.	3.	0.13
+ 2 COMBINED AT	52A1C	341.	3.17	32.	8.	3.	0.13
+ HYDROGRAPH AT	D51.1	246.	4.25	162.	41.	16.	1.13
+ 2 COMBINED AT	C52A	374.	3.17	192.	49.	20.	1.26
+ 2 COMBINED AT	C52	2210.	3.17	465.	119.	48.	2.90
+ ROUTED TO	R52	2210.	3.25	465.	119.	48.	2.90
+ DIVERSION TO	B52T	2210.	3.25	465.	119.	48.	2.90
+ HYDROGRAPH AT	D52T	0.	0.08	0.	0.	0.	2.90
+ 2 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	4.03
+ HYDROGRAPH AT	1B	431.	3.42	53.	13.	5.	0.36
+ ROUTED TO	37AE1	430.	3.42	53.	13.	5.	0.36
+ HYDROGRAPH AT	SUB5N	70.	3.17	5.	1.	1.	0.03
+ 2 COMBINED AT	CP5N	453.	3.42	58.	15.	6.	0.39
+ ROUTED TO	RET5N	423.	3.50	57.	15.	6.	0.39
+ ROUTED TO	R6N.1	371.	3.58	57.	15.	6.	0.39
+ HYDROGRAPH AT	SUB6B	74.	3.17	5.	1.	1.	0.03
+ ROUTED TO	SR6B	43.	3.25	5.	1.	1.	0.03
+ 2 COMBINED AT	CP6.1	389.	3.58	62.	16.	6.	0.42
+ HYDROGRAPH AT	SUB1N	47.	3.17	3.	1.	0.	0.02
+ ROUTED TO	R2NA	46.	3.17	3.	1.	0.	0.02
+ HYDROGRAPH AT	SUB2NA	34.	3.17	2.	1.	0.	0.01
+ 2 COMBINED AT	CP2NA	80.	3.17	6.	1.	1.	0.03
+ ROUTED TO	SR2NA	70.	3.25	4.	1.	0.	0.03
+ ROUTED TO	R2NB	59.	3.33	4.	1.	0.	0.03
+ HYDROGRAPH AT	SUB2NB	96.	3.17	8.	2.	1.	0.03
+ 2 COMBINED AT	CP2NB	99.	3.33	12.	3.	1.	0.06

+	ROUTED TO	SR2NB	25.	3.75	11.	3.	1.	0.06
+	ROUTED TO	RCP4N	24.	3.75	11.	3.	1.	0.06
+	HYDROGRAPH AT	SUB6N	114.	3.17	8.	2.	1.	0.05
+	ROUTED TO	RET6N	0.	0.08	0.	0.	0.	0.05
+	ROUTED TO	RCP4N1	0.	0.08	0.	0.	0.	0.05
+	2 COMBINED AT	CP4N.1	24.	3.75	11.	3.	1.	0.11
+	HYDROGRAPH AT	SUB3N	67.	3.17	4.	1.	0.	0.03
+	ROUTED TO	RET3N	4.	4.17	3.	1.	0.	0.03
+	ROUTED TO	R4N	4.	4.25	3.	1.	0.	0.03
+	2 COMBINED AT	CP4N.2	27.	3.75	14.	4.	2.	0.14
+	HYDROGRAPH AT	SUB4N	80.	3.17	6.	1.	1.	0.03
+	2 COMBINED AT	CP4N	89.	3.17	19.	6.	2.	0.17
+	ROUTED TO	R6N	82.	3.17	19.	6.	2.	0.17
+	HYDROGRAPH AT	SUB6A	64.	3.08	4.	1.	0.	0.01
+	2 COMBINED AT	CP6.2	121.	3.17	23.	7.	3.	0.18
+	2 COMBINED AT	CP6N	429.	3.58	84.	23.	9.	0.60
+	ROUTED TO	RCP6N	423.	3.58	84.	23.	9.	0.60
+	HYDROGRAPH AT	SUB3C	55.	3.08	3.	1.	0.	0.01
+	2 COMBINED AT	CP3C	426.	3.58	87.	23.	9.	0.61
+	ROUTED TO	R3C	412.	3.67	87.	23.	9.	0.61
+	HYDROGRAPH AT	GC1018	101.	3.17	7.	2.	1.	0.04
+	HYDROGRAPH AT	GC1-9	58.	3.17	4.	1.	0.	0.03
+	HYDROGRAPH AT	SUB3S	33.	3.17	3.	1.	0.	0.01
+	4 COMBINED AT	CP3S	441.	3.67	101.	27.	11.	0.69
+	ROUTED TO	RT3S	437.	3.67	101.	27.	11.	0.69
+	HYDROGRAPH AT	SUB4S	87.	3.17	7.	2.	1.	0.03
+	ROUTED TO	RT4S	87.	3.17	7.	2.	1.	0.03
+	HYDROGRAPH AT	GC2-8	32.	3.17	2.	1.	0.	0.01
+	3 COMBINED AT	1PGC28	454.	3.67	109.	29.	12.	0.74
+	HYDROGRAPH AT	SUB3D3	35.	3.17	2.	1.	0.	0.01
+	2 COMBINED AT	CPGC28	458.	3.67	112.	30.	12.	0.75
+	ROUTED TO	SRGC28	448.	3.75	111.	30.	12.	0.75

	ROUTED TO						
+	RT7S	443.	3.75	111.	30.	12.	0.75
	HYDROGRAPH AT						
+	GC7	31.	3.17	2.	1.	0.	0.01
	2 COMBINED AT						
+	CP7S	447.	3.75	113.	30.	12.	0.76
	DIVERSION TO						
+	B7ST	447.	3.75	113.	30.	12.	0.76
	HYDROGRAPH AT						
+	D7ST	0.	0.08	0.	0.	0.	0.76
	2 COMBINED AT						
+	CLEAR	0.	0.08	0.	0.	0.	4.80
	HYDROGRAPH AT						
+	SUB3D1	27.	3.08	2.	0.	0.	0.01
	ROUTED TO						
+	RD1B1	22.	3.17	2.	0.	0.	0.01
	HYDROGRAPH AT						
+	SUB3B1	47.	3.08	3.	1.	0.	0.01
	2 COMBINED AT						
+	CP3B1	61.	3.08	5.	1.	1.	0.02
	ROUTED TO						
+	RB13F	48.	3.25	5.	1.	1.	0.02
	HYDROGRAPH AT						
+	SUB3F	141.	3.08	10.	2.	1.	0.03
	2 COMBINED AT						
+	CP3F	169.	3.08	15.	4.	2.	0.06
	HYDROGRAPH AT						
+	SUB3B2	67.	3.17	6.	1.	1.	0.02
	ROUTED TO						
+	RB2E1	64.	3.17	6.	1.	1.	0.02
	ROUTED TO						
+	RB2E2	61.	3.25	6.	1.	1.	0.02
	HYDROGRAPH AT						
+	SUB3E1	67.	3.17	6.	1.	1.	0.02
	2 COMBINED AT						
+	1CPE31	125.	3.17	11.	3.	1.	0.05
	HYDROGRAPH AT						
+	SUB3D2	58.	3.17	5.	1.	0.	0.02
	ROUTED TO						
+	RD2E2	56.	3.17	5.	1.	0.	0.02
	HYDROGRAPH AT						
+	SUB3E2	37.	3.08	3.	1.	0.	0.01
	2 COMBINED AT						
+	CP3E2	86.	3.17	7.	2.	1.	0.03
	HYDROGRAPH AT						
+	PC3	59.	3.33	7.	2.	1.	0.04
	4 COMBINED AT						
+	CPC3	400.	3.17	40.	10.	4.	0.18
	DIVERSION TO						
+	BPC3T	400.	3.17	40.	10.	4.	0.18
	HYDROGRAPH AT						
+	DPC3T	0.	0.08	0.	0.	0.	0.18
	HYDROGRAPH AT						
+	SUB3E3	60.	3.08	4.	1.	0.	0.02
	HYDROGRAPH AT						
+	PC4	25.	3.33	3.	1.	0.	0.02
	HYDROGRAPH AT						
+	D7S	447.	3.75	113.	30.	12.	0.76
	3 COMBINED AT						
+	CPC4	458.	3.75	120.	32.	13.	0.80
	DIVERSION TO						
+	BPC4T	458.	3.75	120.	32.	13.	0.80
	HYDROGRAPH AT						

+		DPC4T	0.	0.08	0.	0.	0.	0.80
+	3 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	5.78
+	HYDROGRAPH AT	1A1	419.	3.58	70.	18.	7.	0.75
+	ROUTED TO	R1A1	373.	3.83	69.	18.	7.	0.75
+	HYDROGRAPH AT	1A2	1205.	3.25	109.	28.	11.	0.61
+	2 COMBINED AT	C1A	1196.	3.25	175.	45.	18.	1.36
+	ROUTED TO	R14R	928.	3.33	174.	45.	18.	1.36
+	ROUTED TO	RET141	904.	3.33	167.	45.	18.	1.36
+	ROUTED TO	R14.1	775.	3.50	167.	45.	18.	1.36
+	HYDROGRAPH AT	SUB13N	81.	3.17	7.	2.	1.	0.04
+	ROUTED TO	R14.1	78.	3.25	7.	2.	1.	0.04
+	HYDROGRAPH AT	SUB14N	88.	3.25	8.	2.	1.	0.05
+	3 COMBINED AT	CP14	840.	3.50	181.	49.	20.	1.44
+	ROUTED TO	RET14	765.	3.58	175.	49.	20.	1.44
+	ROUTED TO	R18.1	757.	3.58	175.	49.	20.	1.44
+	HYDROGRAPH AT	SUB20N	47.	3.17	4.	1.	0.	0.02
+	ROUTED TO	R19	48.	3.25	4.	1.	0.	0.02
+	HYDROGRAPH AT	SUB19N	94.	3.17	8.	2.	1.	0.04
+	2 COMBINED AT	CP19N	133.	3.17	12.	3.	1.	0.06
+	ROUTED TO	R18NC	132.	3.25	12.	3.	1.	0.06
+	HYDROGRAPH AT	UB18NC	62.	3.17	5.	1.	0.	0.02
+	3 COMBINED AT	CP18NC	806.	3.58	191.	53.	21.	1.53
+	ROUTED TO	RPC1	821.	3.58	191.	53.	21.	1.53
+	HYDROGRAPH AT	UB18NA	65.	3.17	5.	1.	1.	0.02
+	ROUTED TO	1RPC1	31.	3.33	5.	1.	1.	0.02
+	HYDROGRAPH AT	UB18NB	27.	3.17	2.	1.	0.	0.01
+	ROUTED TO	2RPC1	16.	3.25	2.	1.	0.	0.01
+	HYDROGRAPH AT	PC1	66.	3.42	10.	2.	1.	0.06
+	3 COMBINED AT	1CPC1	107.	3.42	17.	4.	2.	0.09
+	ROUTED TO	SRPC1	108.	3.42	16.	4.	2.	0.09
+	2 COMBINED AT	CPC1	904.	3.58	207.	57.	23.	1.62
+	ROUTED TO	R16NA1	923.	3.58	207.	57.	23.	1.62

+	HYDROGRAPH AT UB16NA	42.	3.17	3.	1.	0.	0.01
+	ROUTED TO R16NA1	37.	3.17	3.	1.	0.	0.01
+	2 COMBINED AT C16NA1	931.	3.58	210.	58.	23.	1.63
+	ROUTED TO R16NB1	931.	3.58	210.	58.	23.	1.63
+	HYDROGRAPH AT UB16NB	48.	3.17	4.	1.	0.	0.02
+	ROUTED TO R16NB1	43.	3.17	4.	1.	0.	0.02
+	2 COMBINED AT C16NB1	939.	3.58	213.	59.	24.	1.65
+	ROUTED TO R16NC1	911.	3.67	213.	59.	24.	1.65
+	HYDROGRAPH AT SUB7N	74.	3.17	5.	1.	1.	0.03
+	ROUTED TO R8NC	64.	3.25	5.	1.	1.	0.03
+	HYDROGRAPH AT SUB8NA	13.	3.08	1.	0.	0.	0.00
+	ROUTED TO SR8NA	1.	4.17	0.	0.	0.	0.00
+	ROUTED TO R8NB	1.	4.17	0.	0.	0.	0.00
+	HYDROGRAPH AT SUB8NB	34.	3.08	2.	1.	0.	0.01
+	2 COMBINED AT CP8NB	34.	3.08	3.	1.	0.	0.02
+	ROUTED TO SR8NB	2.	3.08	2.	1.	0.	0.02
+	ROUTED TO R8NC	2.	3.08	2.	1.	0.	0.02
+	HYDROGRAPH AT SUB8NC	51.	3.08	3.	1.	0.	0.02
+	3 COMBINED AT CP8NC	103.	3.17	10.	3.	1.	0.07
+	ROUTED TO SR8NC	18.	3.75	10.	3.	1.	0.07
+	ROUTED TO R9N	17.	3.75	10.	3.	1.	0.07
+	HYDROGRAPH AT SUB9N	143.	3.17	11.	3.	1.	0.05
+	2 COMBINED AT CP9N	153.	3.17	21.	6.	2.	0.12
+	ROUTED TO R10B	148.	3.17	21.	6.	2.	0.12
+	HYDROGRAPH AT SUB10B	87.	3.08	6.	2.	1.	0.03
+	2 COMBINED AT CP10B	226.	3.17	27.	7.	3.	0.15
+	ROUTED TO R11NA	229.	3.17	27.	7.	3.	0.15
+	HYDROGRAPH AT UB11NA	21.	3.08	1.	0.	0.	0.01
+	2 COMBINED AT CP11NA	245.	3.17	28.	8.	3.	0.16
+	ROUTED TO SR11NA	145.	3.33	28.	8.	3.	0.16
+	ROUTED TO R11NB	140.	3.33	28.	8.	3.	0.16
+	HYDROGRAPH AT UB11NB	22.	3.08	1.	0.	0.	0.01

	2 COMBINED AT							
+		CP11NB	146.	3.33	29.	8.	3.	0.17
	ROUTED TO							
+		SR11NB	84.	3.50	28.	8.	3.	0.17
	ROUTED TO							
+		R11NC	87.	3.50	28.	8.	3.	0.17
	HYDROGRAPH AT							
+		UB11NC	19.	3.08	1.	0.	0.	0.01
	2 COMBINED AT							
+		C11NC1	90.	3.50	30.	8.	3.	0.17
	HYDROGRAPH AT							
+		SUB10A	88.	3.08	7.	2.	1.	0.03
	ROUTED TO							
+		R12NB	95.	3.17	7.	2.	1.	0.03
	HYDROGRAPH AT							
+		UB12NA	36.	3.17	3.	1.	0.	0.02
	ROUTED TO							
+		SR12NA	1.	6.17	0.	0.	0.	0.02
	ROUTED TO							
+		R12NA	1.	6.17	0.	0.	0.	0.02
	HYDROGRAPH AT							
+		UB12NB	37.	3.17	3.	1.	0.	0.02
	3 COMBINED AT							
+		CP12NB	132.	3.17	10.	3.	1.	0.06
	ROUTED TO							
+		SR12NB	2.	3.17	2.	2.	1.	0.06
	ROUTED TO							
+		R11NC2	2.	3.50	2.	2.	1.	0.06
	2 COMBINED AT							
+		CP11NC	92.	3.50	32.	10.	4.	0.23
	ROUTED TO							
+		SR11NC	71.	3.75	30.	10.	4.	0.23
	ROUTED TO							
+		R16NC	71.	3.75	30.	10.	4.	0.23
	HYDROGRAPH AT							
+		UB16NC	102.	3.17	8.	2.	1.	0.03
	2 COMBINED AT							
+		CP16NC	107.	3.17	36.	12.	5.	0.27
	ROUTED TO							
+		R16NC1	106.	3.17	36.	12.	5.	0.27
	2 COMBINED AT							
+		C16NC1	968.	3.67	249.	70.	29.	1.92
	ROUTED TO							
+		R15N1	986.	3.67	248.	70.	29.	1.92
	HYDROGRAPH AT							
+		PC2	93.	3.25	8.	2.	1.	0.05
	2 COMBINED AT							
+		CP15N1	1008.	3.67	257.	72.	29.	1.97
	ROUTED TO							
+		SRPC2	960.	3.75	256.	72.	29.	1.97
	HYDROGRAPH AT							
+		UB17NA	28.	3.08	2.	0.	0.	0.01
	ROUTED TO							
+		SR17NA	2.	3.75	1.	0.	0.	0.01
	ROUTED TO							
+		R17NB	2.	3.75	1.	0.	0.	0.01
	HYDROGRAPH AT							
+		UB17NB	27.	3.17	2.	0.	0.	0.01
	2 COMBINED AT							
+		CP17NB	28.	3.17	3.	1.	0.	0.02
	ROUTED TO							
+		SR17NB	1.	3.00	1.	1.	0.	0.02
	ROUTED TO							

+		R17A	1.	3.08	1.	1.	0.	0.02
+	HYDROGRAPH AT	SUB17A	30.	3.08	2.	0.	0.	0.01
+	2 COMBINED AT	CP17A1	31.	3.08	3.	1.	1.	0.03
+	HYDROGRAPH AT	UB17NC	19.	3.08	1.	0.	0.	0.01
+	2 COMBINED AT	CP17A	50.	3.08	3.	2.	1.	0.03
+	ROUTED TO	R15N	34.	3.17	3.	2.	1.	0.03
+	HYDROGRAPH AT	SUB15N	142.	3.17	11.	3.	1.	0.04
+	2 COMBINED AT	CP15N	175.	3.17	14.	4.	2.	0.07
+	ROUTED TO	R15N2	179.	3.17	14.	4.	2.	0.07
+	2 COMBINED AT	CP15N2	983.	3.67	269.	76.	31.	2.04
+	ROUTED TO	R15N2	954.	3.75	268.	76.	31.	2.04
+	HYDROGRAPH AT	DPC3	400.	3.17	40.	10.	4.	0.18
+	2 COMBINED AT	CPC3A	1010.	3.75	303.	86.	35.	2.23
+	ROUTED TO	RPC3A	1000.	3.83	303.	86.	35.	2.23
+	HYDROGRAPH AT	DPC4	458.	3.75	120.	32.	13.	0.80
+	2 COMBINED AT	CPC4A	1425.	3.83	420.	117.	48.	3.03
+	ROUTED TO	RPC4A	1415.	3.83	420.	117.	48.	3.03
+	DIVERSION TO	BPC4AT	1415.	3.83	420.	117.	48.	3.03
+	HYDROGRAPH AT	DPC4AT	0.	0.08	0.	0.	0.	3.03
+	HYDROGRAPH AT	SUB1-2	181.	3.17	16.	4.	2.	0.06
+	HYDROGRAPH AT	GCRB18	27.	3.17	2.	1.	0.	0.01
+	2 COMBINED AT	CPRET1	208.	3.17	18.	4.	2.	0.07
+	ROUTED TO	SR18S	0.	0.08	0.	0.	0.	0.07
+	HYDROGRAPH AT	SUB5S	72.	3.17	5.	1.	1.	0.03
+	HYDROGRAPH AT	GC1216	83.	3.17	6.	2.	1.	0.04
+	HYDROGRAPH AT	GC1415	104.	3.17	7.	2.	1.	0.05
+	HYDROGRAPH AT	SUB6S	53.	3.17	5.	1.	0.	0.02
+	HYDROGRAPH AT	SUB7S	79.	3.17	6.	2.	1.	0.03
+	5 COMBINED AT	CPRET2	391.	3.17	30.	7.	3.	0.16
+	ROUTED TO	SRRET2	0.	0.08	0.	0.	0.	0.16
+	2 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	0.22
+	HYDROGRAPH AT	SUB8S	76.	3.17	6.	1.	1.	0.03

	ROUTED TO							
+		RGC36	64.	3.25	6.	1.	1.	0.03
	HYDROGRAPH AT							
+		GC36	77.	3.17	7.	2.	1.	0.04
	2 COMBINED AT							
+		C1GC36	141.	3.17	13.	3.	1.	0.07
	HYDROGRAPH AT							
+		SUB9S	68.	3.17	5.	1.	1.	0.02
	ROUTED TO							
+		R9S	69.	3.17	5.	1.	1.	0.02
	2 COMBINED AT							
+		CPGC36	210.	3.17	18.	4.	2.	0.09
	ROUTED TO							
+		SRGC36	202.	3.25	18.	4.	2.	0.09
	HYDROGRAPH AT							
+		SUB7A	27.	3.17	2.	1.	0.	0.01
	ROUTED TO							
+		SR7A	7.	3.42	2.	1.	0.	0.01
	ROUTED TO							
+		R10S	7.	3.58	2.	1.	0.	0.01
	HYDROGRAPH AT							
+		SUB10S	78.	3.17	6.	2.	1.	0.02
	2 COMBINED AT							
+		CP10S	81.	3.17	8.	2.	1.	0.03
	HYDROGRAPH AT							
+		SUB11S	118.	3.08	7.	2.	1.	0.02
	ROUTED TO							
+		R11S	88.	3.17	7.	2.	1.	0.02
	2 COMBINED AT							
+		C10SA	169.	3.17	15.	4.	2.	0.06
	ROUTED TO							
+		R10SA	173.	3.17	15.	4.	2.	0.06
	HYDROGRAPH AT							
+		GC45	45.	3.08	2.	1.	0.	0.01
	2 COMBINED AT							
+		CGC45	196.	3.17	17.	4.	2.	0.07
	HYDROGRAPH AT							
+		PC5	43.	3.33	5.	1.	1.	0.04
	HYDROGRAPH AT							
+		DPC4A	1415.	3.83	420.	117.	48.	3.03
	5 COMBINED AT							
+		CPC5	1475.	3.83	458.	127.	52.	3.00
	ROUTED TO							
+		RC5	1447.	3.92	457.	127.	52.	3.00
	HYDROGRAPH AT							
+		SCN5D	64.	3.25	6.	1.	1.	0.05
	2 COMBINED AT							
+		CN5D	1456.	3.92	463.	129.	52.	3.05
	HYDROGRAPH AT							
+		D52	2210.	3.25	465.	119.	48.	2.90
	HYDROGRAPH AT							
+		S53A	247.	3.25	26.	6.	3.	0.18
	2 COMBINED AT							
+		C53	2442.	3.25	490.	126.	50.	3.08
	HYDROGRAPH AT							
+		S53A1	456.	3.33	53.	13.	5.	0.34
	2 COMBINED AT							
+		C53A	2875.	3.33	541.	139.	56.	3.42
	HYDROGRAPH AT							
+		SCN6B	158.	3.17	13.	3.	1.	0.05
	HYDROGRAPH AT							
+		SCN6D	68.	3.17	5.	1.	0.	0.04
	3 COMBINED AT							
+		CP6D	2982.	3.33	558.	143.	57.	3.51

```
                HYDROGRAPH AT
+                        SCN6C     347.   3.17      29.       7.       3.    0.14
                2 COMBINED AT
+                         CP6C    3267.   3.25     586.     150.      60.    3.65
                2 COMBINED AT
+                         CP5D    4220.   3.33    1025.     275.     111.    6.70
                HYDROGRAPH AT
+                        SCN5C     240.   3.25      23.       6.       2.    0.19
                HYDROGRAPH AT
+                        SCN6E      35.   3.58       6.       1.       1.    0.04
                3 COMBINED AT
+                       EAST-I    4426.   3.33    1050.     281.     113.    6.93
                ROUTED TO
+                       EAST-O    2008.   4.17    1050.     281.     113.    6.93
1
```

APPENDIX D

EAST SIDE INTERIM BUILD-OUT AND 50% CLOGGING CONDITION
100-YEAR, 6-HOUR PRINTOUT (I-2)

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              MAY   1991           *
*            VERSION 4.0.1E         *
*     Lahey F77L-EM/32 version 5.01 *
*       Dodson & Associates, Inc.   *
* RUN DATE  02/25/99  TIME  08:04:55 *
*************************************
```

```
*************************************
*                                   *
*    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    PIMA ROAD THREE BASINS                                  File:  EX100-6.IH1
  2           ID    by  Stantec for the City of Scottsdale             Original: 08-07-97     mcg
  3           ID        Project:  28900082                              Revised: 01-20-99     mcg
  4           ID
  5           ID
  6           ID    100-YEAR, 6-HOUR STORM
  7           ID        INTERIM CONDITION:
  8           ID           NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
  9           ID           GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
 10           ID           THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
 11           ID           THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF
 12           ID           FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.
 13           ID
 14           ID        THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
 15           ID            DEI FILE NAME:  GH23FAB.H1I
 16           ID            MODEL DATE:     21 MAY 96
 17           ID
 18           ID        THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
 19           ID            WOOD/PATEL FILE NAME:  DC0721C.DAT
 20           ID            MODEL DATE:            4 JANUARY 96
 21           ID
 22           ID
              *DIAGRAM
 23           IT       5                    720
 24           IO       5
 25           JD             .01
 26           JD              .1
 27           JD              .5
 28           JD               1
 29           JD               5
 30           JD              25
              *

 31           KK   S51.1
 32           KM     RUNOFF FROM SUBBASIN 51.1
 33           KM       RAINFALL LOSSES FOR GREINER SUBBASINS 51.1 AND 49.1 ARE AREA WEIGHTED
 34           BA   1.130
 35           PH                     .84    1.53    2.46    2.75    2.94    3.31
 36           LS            73.9      12
 37           UK     300   0.037   0.130     100
 38           RK    1800   0.038   0.045  0.0161    TRAP       0      12
 39           RK   14400   0.032   0.040            TRAP      40      15
              *

 40           KK  DVDB-O
 41           KM     DETENTION BASIN AT DEER VALLEY ROAD
 42           KM     PRINCIPAL SPILLWAY:  54" CONDUIT THAT TIES INTO THE PIMA ROAD STORM DRAIN
 43           KM        STAGE-DISCHARGE RATING CURVE REFLECTS 50% CLOGGING OF THE TRASHRACK
 44           KM        2 ACRE-FEET OF STORAGE FOR SEDIMENTAION
 45           KM
 46           RS       1    STOR      -1
 47           SV       0    0.54    0.96    1.18    1.68    2.09    3.72     6.3     9.8   14.25
 48           SV   19.23   24.78   30.93   34.23   37.69    41.3   45.08   49.03   57.33   61.54
 49           SQ       0       3      15      28      51      81     141     181     202     215
 50           SQ     223     231     240     242     245     248     250     253     256     258
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

  51          SE    1855    1856    1857    1858    1859    1860    1862    1864    1866    1868
  52          SE    1870    1872    1874    1875    1876    1877    1878    1879    1880    1881
              *
              *  R51.1
              *    DEER VALLEY BASIN OUTLET CONDUIT TO THOMPSON PEAK PARKWAY
              *    NO ROUTING THROUGH CONDUIT.
              *       L = 2820 feet
              *

  53          KK  D51.1T
  54          KM     DIVERT 100% OF FLOW TO RETRIEVE AT THOMPSON PEAK PARKWAY
  55          DT  B51.1T
  56          DI       0   10000
  57          DQ       0   10000
              *
              *
              *     ******************  BEGIN DC RANCH WATERSHED  *******************
              *
              *       THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
              *           WOOD/PATEL FILE NAME:  DC0721C.DAT
              *           MODEL DATE:            4 JANUARY 96
              *

  58          KK    52D4
  59          KM   RUNOFF FROM SUBBASIN 52D4
  60          BA    .070
  61          LS              75    14.5
  62          UK     120    .010     .15     100
  63          RK    3100    .035    .045            TRAP      30      10
              *

  64          KK   52D4R
  65          KM   ROUTE 52D4C THROUGH 52D5 TO CP 52D5C
  66          RK    1350    .033    .045            TRAP      10      10
              *

  67          KK   52D4B
  68          KM   RUNOFF FROM SUBBASIN 52D4B
  69          BA    .022
  70          LS              75      63
  71          UK     120    .010     .15     100
  72          RK    2200    .033    .045            TRAP      30      10
              *

  73          KK  52D5C1
  74          KM   COMBINE 52D4R AND 52D4B
  75          HC       2
              *

  76          KK   52D5A
  77          KM   RUNOFF FROM 52D5A
  78          BA   .0232
  79          LS              75      63
  80          UK     120    .010     .15     100
  81          RK    1300    .032    .045            TRAP      30      10
              *
```



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

  82          KK  52D5AR
  83          KM   ROUTE 52D5A THROUGH BEARDSLEY CHANNEL TO CP 52D5C2
  84          RK     400   .0143    .035            TRAP      50       4
              *

  85          KK  52D5C2
  86          KM   COMBINE 25D5C1 AND 52D5AR
  87          HC       2
              *

  88          KK   52D5R
  89          KM   ROUTE 52D5C IN BEARDSLEY CHANNEL TO CP 52C3BC2
  90          RK     240   .0143    .035            TRAP      50       4
              *

  91          KK    52C3
  92          KM   RUNOFF FROM SUBBASIN 52C3
  93          BA    .006
  94          LS              75      65
  95          UK     100     .02     .10     100
  96          RK     800    .033    .045            TRAP      30      10
              *

  97          KK   52C3R
  98          KM   ROUTE 52C3 THROUGH SUBBASIN 52C4 TO CP 52C4C1
  99          RK    1350    .034    .045            TRAP      10      10
              *

 100          KK   52C3B
 101          KM   RUNOFF FROM SUBBASIN 52C3B
 102          BA    .016
 103          LS              75      60
```

```
104          UK     100     .02     .10     100
105          RK    1400    .034    .045            TRAP      30      10
             *

106          KK  2C3BC1
107          KM   COMBINE 52C3B AND 52C3R
108          HC       2
             *

109          KK  2C3BC2
110          KM   COMBINE 52C3BC1 AND 52C5R
111          HC       2
             *

112          KK  52C3BR
113          KM   ROUTE 52C3BC2 IN BEARDSLEY CHANNEL TO CP 52C4C2
114          RK     430   .0143    .035            TRAP      50       4
             *
             *
1                                        HEC-1 INPUT                                                PAGE  4

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

115          KK     51C     SUB
116          KM        RUNOFF FROM SUB 51C
117          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
118          KM        CONDITIONS.
119          BA   .0972
120          LS              70       5
121          UK     100   .0213     .10     100
122          RK    3900   .0375    .045            TRAP      30      10
             *

123          KK   51C1D
124          KM   DIVERT 67 PERCENT OF 51C TO WEST (33 PERCENT TO SOUTH)
125          DT  51C1DV
126          DI       0   10000
127          DQ       0    6700
             *

128          KK   51C1R
129          KM   ROUTE 51C1D THROUGH SUBBASIN 52C1
130          RK    1350   .0364    .045            TRAP      10      10
             *

131          KK    52C1
132          KM   RUNOFF FROM SUBBASIN 52C1
133          BA    .029
134          LS              75    20.5
135          UK     100     .02     .10     100
136          RK    1350    .021    .045            TRAP      30      10
             *

137          KK   52C1C
138          KM   COMBINE 51C1R AND 52C1
139          HC       2   .0611
             *

140          KK   52C1R
141          KM   ROUTE 52C1C THROUGH BASIN 52C2A TO CP 52C2BC
142          RK    1500    .033    .045            TRAP      10      10
             *

143          KK   52C2A
144          KM   RUNOFF FROM SUBBASIN 52C2A
145          BA    .019
146          LS              75       2
147          UK     100     .02     .10     100
148          RK    1500    .033    .045            TRAP      30      10
             *

149          KK  52C2AC
150          KM   COMBINE 52C2A AND 52C1R
151          HC       2
             *
1                                        HEC-1 INPUT                                                PAGE  5

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

152          KK   52C2B
153          KM   RUNOFF FROM SUBBASIN 52C2B
154          BA   .0275
155          LS              75      11
156          UK     100     .02     .10     100
157          RK    2000    .030    .045            TRAP      30      10
             *

158          KK  52C2BC
159          KM   COMBINE 52C2B AND 52C2AC
160          HC       2
             *

161          KK  52C2BR
```

```
162          KM   ROUTE 52C2BC THROUGH 52C2C TO CP 52C2CC
163          RK    1500    .040    .045            TRAP      10      10
             *

164          KK   52C2C
165          KM   RUNOFF FROM SUBBASIN 52C2C
166          BA    .014
167          LS              75      62
168          UK     100     .02     .10     100
169          RK    1500     .04    .045            TRAP      30      10
             *

170          KK  52C2CC
171          KM   COMBINE 52C2C AND 52C2BR
172          HC       2
             *

173          KK   52C2R
174          KM   ROUTE 52C2CC THROUGH SUBBASIN 52C4 TO CP 52C4C1
175          RK    1550    .030    .045            TRAP      10      10
             *

176          KK    52C4
177          KM   RUNOFF FROM SUBBASIN 52C4
178          BA    .017
179          LS              75      60
180          UK     100     .02     .10     100
181          RK    1550    .030    .045            TRAP      30      10
             *

182          KK  52C4C1
183          KM   COMBINE 52C4 AND 52C2R
184          HC       2
             *
```



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

185          KK  52C4C2
186          KM   COMBINE 52C4C1 AND 52C3BR
187          HC       2
             *

188          KK   52C4R
189          KM   ROUTE 52C4C2 WEST IN BEARDSLEY CHANNEL TO CP 52C15C2
190          RK     850   .0143    .035            TRAP      50       4
             *

191          KK   52C13
192          KM   RUNOFF FROM SUBBASIN 52C13
193          BA    .023
194          LS              75      31
195          UK     100     .02     .10     100
196          RK     950    .040    .045            TRAP      30      10
             *

197          KK  2C13DV
198          KM   DIVERT FIRST 40 CFS INTO STORM DRAIN; REMAINDER FLOWS OVER ROAD
199          DT   STORM
200          DI       0      40    1000
201          DQ       0      40      40
             *
             * KK52C13R
             * KM ROUTE 52C13 THROUGH SUBBASIN 52C15 TO CP 52C15C1
             * RK  1800    .035    .045            TRAP      10      10
             *

202          KK   52C15
203          KM   RUNOFF FROM SUBBASIN 52C15
204          BA    .046
205          LS              75    64.4
206          UK     100     .02     .10     100
207          RK    2050    .036    .045            TRAP      30      10
             *

208          KK  2C15C1
209          KM   COMBINE 52C15 AND 52C13DV
210          HC       2    .046
             *

211          KK  2C15C2
212          KM   COMBINE 52C15C1 AND 52C4R
213          HC       2
             *

214          KK  52C15R
215          KM   ROUTE 52C15C2 IN BEARDSLEY CHANNEL TO CP 52C14C3
216          RK     750   .0143    .035            TRAP      50       4
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
217          KK  52C14A
218          KM   RUNOFF FROM SUBBASIN 52C14A
219          BA    .041
220          LS              75    67.7
221          UK     100     .02     .10     100
222          RK    2050    .031    .045            TRAP      30      10
             *

223          KK  2C14AC
224          KM   COMBINE 52C14A AND 52C15R
225          HC       2
             *

226          KK  2C14AR
227          KM   ROUTE 52C14AC IN BEARDSLEY CHANNEL TO CP 52C14BC2
228          RK     380   .0143    .035            TRAP      50       4
             *
             *

229          KK  51C1DV
230          KM   RETRIEVE DIVERTED FLOW
231          DR  51C1DV
             *

232          KK   51C2D
233          KM   DIVERT 27 PERCENT OF 51C1DV TO WEST (73 PERCENT TO SOUTH)
234          DT  51C2DV
235          DI       0   10000
236          DQ       0    2700
             *

237          KK   51C2R
238          KM   ROUTE 51C2D THROUGH SUBBASIN 52C5 TO CP 52C5C
239          RK     700    .030    .045            TRAP      10      10
             *

240          KK    52C5
241          KM   RUNOFF FROM SUBBASIN 52C5
242          BA    .016
243          LS              75      27
244          UK     100     .02     .10     100
245          RK    1200     .03    .045            TRAP      30      10
             *

246          KK   52C5C
247          KM   COMBINE 51C2R AND 52C5
248          HC       2   .0635
             *
```



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

249          KK   52C5R
250          KM   ROUTE 52C5C THROUGH SUBBASIN 52C6 TO CP 52C6C
251          RK    3100    .035    .045            TRAP      10      10
             *

252          KK    52C6
253          KM   RUNOFF FROM SUBBASIN 52C6
254          BA    .036
255          LS              75    31.4
256          UK     100     .02     .10     100
257          RK    3100    .035    .045            TRAP      30      10
             *

258          KK   52C6C
259          KM   COMBINE 52C5R AND 52C6
260          HC       2
             *

261          KK   52C6R
262          KM   ROUTE 52C6C THROUGH SUBBASIN 52C10 TO CP 52C10C2
263          RK     450    .032    .045            TRAP      10      10
             *

264          KK  51C2DV
265          KM   RETRIEVE 52C2DV
266          DR  51C2DV
             *

267          KK   51C3R
268          KM   ROUTE 52C2DV THROUGH SUBBASIN 52C7 TO CP 52C7C
269          RK     700    .040    .045            TRAP      10      10
             *

270          KK     51B     SUB
271          KM        RUNOFF FROM SUB 51B
272          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
273          KM        CONDITIONS.
274          BA   .5711
275          LS              70       5
276          UK     100   .0213     .10     100
277          RK    8900   .0300    .045            TRAP      50      25
             *
```

```
 278          KK   51B1D
 279          KM   DIVERT 92 PERCENT OF SUBBASIN 51B TO WEST (8 PERCENT TO SOUTH)
 280          DT  51B1DV
 281          DI       0   10000
 282          DQ       0    9200
              *
1                                        HEC-1 INPUT                                                    PAGE  9

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

 283          KK   51B1R
 284          KM    ROUTE 51B1D THROUGH SUBBASIN 52C7 TO CP 52C7C
 285          RK     450     .04    .045            TRAP      10      10
              *

 286          KK    52C7
 287          KM   RUNOFF FROM SUBBASIN 52C7
 288          BA    .006
 289          LS              75      27
 290          UK     100     .02     .10     100
 291          RK     550     .04    .045            TRAP      30      10
              *

 292          KK   52C7C
 293          KM   COMBINE 51B1R, 51C3R, AND 52C7
 294          HC       3   .0693
              *

 295          KK   52C7R
 296          KM   ROUTE 52C7C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 297          RK    1550    .036    .045            TRAP      10      10
              *

 298          KK  51B1DV
 299          KM   RETRIEVE DIVERTED FLOW 51B1DV
 300          DR  51B1DV
              *

 301          KK   51B2D
 302          KM   DIVERT 84 PERCENT OF 51B1DV TO WEST (16 PERCENT TO SOUTH)
 303          DT  51B2DV
 304          DI       0   10000
 305          DQ       0    8400
              *

 306          KK   51B2R
 307          KM   ROUTE 51B2D THROUGH SUBBASIN 52C8 TO CP 52C8C
 308          RK     750    .034    .045            TRAP      10      10
              *

 309          KK    52C8
 310          KM   RUNOFF FROM SUBBASIN 52C8
 311          BA    .008
 312          LS              75      27
 313          UK     100     .02     .10     100
 314          RK     750    .034    .045            TRAP      30      10
              *

 315          KK   52C8C
 316          KM   COMBINE 51B2R AND 52C8
 317          HC       2   .4493
              *
1                                        HEC-1 INPUT                                                    PAGE 10

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

 318          KK   52C8R
 319          KM   ROUTE 52C8C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 320          RK    1100    .036    .045            TRAP      10      10
              *

 321          KK  52C9C1
 322          KM   COMBINE 52C7R AND 52C8R
 323          HC       2
              *

 324          KK  52C9R1
 325          KM   ROUTE 52C9C1 THROUGH SUBBASIN 52C9 TO CP 52C9C2
 326          RK    1050    .036    .045            TRAP      10      10
              *

 327          KK    52C9
 328          KM   RUNOFF FROM SUBBASIN 52C9
 329          BA    .069
 330          LS              75   31.85
 331          UK     100     .02     .10     100
 332          RK    3150    .036    .045            TRAP      30      10
              *

 333          KK  52C9C2
 334          KM   COMBINE 52C9R1 AND 52C9
 335          HC       2
```

```
                 *

 336             KK  52C9R2
 337             KM   ROUTE 52C9C2 THROUGH SUBBASIN 52C10 TO CP 52C10C1
 338             RK     500    .032    .045            TRAP      10      10
                 *

 339             KK  2C10C1
 340             KM   COMBINE 52C9R2 AND 52C6R
 341             HC       2
                 *

 342             KK  2C10R1
 343             KM   ROUTE 52C10C1 THROUGH SUBBASIN 52C10 TO CP 52C10C2
 344             RK     300    .032    .045            TRAP      10      10
                 *

 345             KK   52C10
 346             KM   RUNOFF FROM SUBBASIN 52C10
 347             BA    .014
 348             LS              75    7.85
 349             UK     100     .02     .10     100
 350             RK     800    .032    .045            TRAP      30      10
                 *
1                                          HEC-1 INPUT                                                    PAGE 11

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

 351             KK  2C10C2
 352             KM   COMBINE 52C10R1 AND 52C10
 353             HC       2
                 *

 354             KK   52C11
 355             KM   RUNOFF FROM SUBBASIN 52C11
 356             BA   .0425
 357             LS              75      27
 358             UK     100     .02     .10     100
 359             RK    2800    .031    .045            TRAP      30      10
                 *

 360             KK  2C11R1
 361             KM   PIPE ROUTE 52C11 TO CP 52C11C
 362             RK     650     .02    .045            CIRC       3
                 *

 363             KK  52C13D
 364             KM   RETRIEVE DIVERTED FLOW
 365             DR   STORM
                 *

 366             KK  52C11C
 367             KM   COMBINE 52C13D AND 52C11R1
 368             HC       2   .0655
                 *

 369             KK  2C11CR
 370             KM   PIPE ROUTE 52C11C TO CP 52C11C2
 371             RK     750     .02    .045            CIRC       3
                 *

 372             KK  2C11C2
 373             KM   COMBINE 52C11CR AND 52C10C2
 374             HC       2
                 *

 375             KK  2C11R2
 376             KM   ROUTE 52C11C2 THROUGH SUBBASIN 52C12 TO CP 52C12C
 377             RK     700     .03    .045            TRAP      10      10
                 *

 378             KK   52C12
 379             KM   RUNOFF FROM SUBBASIN 52C12
 380             BA    .023
 381             LS              75      85
 382             UK     100     .02     .10     100
 383             RK     900     .03    .045            TRAP      30      10
                 *
1                                          HEC-1 INPUT                                                    PAGE 12

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

 384             KK  52C12C
 385             KM   COMBINE 52C11R2 AND 52C12
 386             HC       2
                 *

 387             KK  52C12R
 388             KM   ROUTE 52C12C THROUGH SUBBASIN 52C14 TO CP 52C14C1
 389             RK    1150    .029    .045            TRAP      10      10
                 *

 390             KK  52C14B
```

```
391          KM   RUNOFF FROM SUBBASIN 52C14B
392          BA    .021
393          LS              75      60
394          UK     100     .02     .10     100
395          RK    1250    .029    .045            TRAP      30      10
             *

396          KK  C14BC1
397          KM   COMBINE 52C14B AND 52C12R
398          HC       2
             *

399          KK  C14BC2
400          KM   COMBINE 52C14BC1 AND 52C14AR
401          HC       2
             *

402          KK  52C14R
403          KM   ROUTE 52C14C3 WEST IN BEARDSLEY CHANNEL TO CP 52B5C2
404          RK     600   .0143    .035            TRAP      50       4
             *

405          KK  51B2DV
406          KM   RETRIEVE DIVERTED FLOW
407          DR  51B2DV
             *

408          KK   51B3D
409          KM   DIVERT 84 PERCENT OF 51B2DV TO WEST (16 PERCENT TO SOUTH)
410          DT  51B3DV
411          DI       0   10000
412          DQ       0    8400
             *

413          KK   51B3R
414          KM   ROUTE 51B3D THROUGH SUBBASIN 52B1 TO CP 52B1C
415          RK     600    .039    .045            TRAP      10      10
             *
1                                        HEC-1 INPUT                                          PAGE 13

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

416          KK    52B1
417          KM   RUNOFF FROM SUBBASIN 52B1
418          BA    .003
419          LS              75      27
420          UK     100     .02     .10     100
421          RK     600    .039    .045            TRAP      30      10
             *

422          KK   52B1C
423          KM   COMBINE 51B3R AND 52B1
424          HC       2   .0736
             *

425          KK   52B1R
426          KM   ROUTE 52B1C THROUGH SUBBASIN 52B2 TO CP 52B2C1
427          RK     930    .037    .045            TRAP      10      10
             *

428          KK  51B3DV
429          KM   RETRIEVE DIVERTED FLOW 51B3DV
430          DR  51B3DV
             *

431          KK   51B4D
432          KM   DIVERT 82 PERCENT OF 51B3DV TO WEST (18 PERCENT TO SOUTH)
433          DT  51B4DV
434          DI       0   10000
435          DQ       0    8200
             *

436          KK  51B4R1
437          KM   ROUTE 51B4D THROUGH SUBBASIN 52B2 TO CP 52B2C1
438          RK    1350    .037    .045            TRAP      10      10
             *

439          KK  52B2C1
440          KM   COMBINE 51B4R1 AND 52B1R
441          HC       2   .1403
             *

442          KK  52B2R1
443          KM   ROUTE 52B2R1 THROUGH SUBBASIN 52B2 TO CP 52B2C2
444          RK    1000    .037    .045            TRAP      10      10
             *

445          KK    52B2
446          KM   RUNOFF FROM SUBBASIN 52B2
447          BA    .032
448          LS              75      17
449          UK     100     .02     .10     100
450          RK    2350    .037    .045            TRAP      30      10
             *
```

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

 451          KK  52B2C2
 452          KM   COMBINE 52B2 AND 52B2R1
 453          HC       2
              *

 454          KK  52B2R2
 455          KM   ROUTE 52B2C2 THROUGH SUBBASIN 52B3 TO CP 52B3C2
 456          RK     850    .026    .045            TRAP      10      10
              *

 457          KK  52B3R1
 458          KM   ROUTE 52B3C1 THROUGH SUBBASIN 52B3 TO CP 52B3C2
 459          RK     500    .024    .045            TRAP      10      10
              *

 460          KK    52B3
 461          KM   RUNOFF FROM SUBBASIN 52B3
 462          BA    .062
 463          LS              75    31.8
 464          UK     100     .02     .10     100
 465          RK    3450    .030    .045            TRAP      30      10
              *

 466          KK  52B3C2
 467          KM   COMBINE 52B3 AND 52B3R1
 468          HC       2
              *

 469          KK  52B3R2
 470          KM   ROUTE 52B3C2 THROUGH 52B4 TO CP 52B4C
 471          RK    1700    .024    .045            TRAP      10      10
              *

 472          KK    52B4
 473          KM   RUNOFF FROM SUBBASIN 52B4
 474          BA    .026
 475          LS              75      62
 476          UK     100     .02     .10     100
 477          RK    1700    .024    .045            TRAP      30      10
              *

 478          KK   52B4C
 479          KM   COMBINE 52B4 AND 52B3R2
 480          HC       2
              *

 481          KK   52B4R
 482          KM   ROUTE 52B4C THROUGH SUBBASIN 52B5 TO CP 52B5C1
 483          RK     550    .027    .045            TRAP      10      10
              *
```



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

 484          KK    52B5
 485          KM   RUNOFF FROM SUBBASIN 52B5
 486          BA    .021
 487          LS              75    56.9
 488          UK     100     .02     .10     100
 489          RK    1400     .03    .045            TRAP      30      10
              *

 490          KK  52B5C1
 491          KM   COMBINE 52B5 AND 52B4R
 492          HC       2
              *

 493          KK  52B5C2
 494          KM   COMBINE 52B5C1 AND 52C14R
 495          HC       2
              *

 496          KK   52B5R
 497          KM   ROUTE 52B5C2 IN BEARDSLEY CHANNEL TO CP 52B7C2
 498          RK    1100   .0143    .035            TRAP      50       4
              *

 499          KK  51B4DV
 500          KM   RETRIEVE DIVERTED FLOW 51B4DV
 501          DR  51B4DV
              *

 502          KK   51B5D
 503          KM   DIVERT 68 PERCENT OF 51B4DV TO WEST (32 PERCENT TO SOUTH)
 504          DT  51B5DV
 505          DI       0   10000
 506          DQ       0    6800
              *
```

```
 507          KK   51B5R
 508          KM   ROUTE 51B5D THROUGH SUBBASIN 52B6 TO CP 51B7C
 509          RK    1250    .035    .045            TRAP      10      10
              *

 510          KK  51B5DV
 511          KM   RETRIEVE DIVERTED FLOW
 512          DR  51B5DV
              *

 513          KK   51B6D
 514          KM   DIVERT 53 PERCENT OF 51B5DV TO WEST (47 PERCENT TO SOUTH)
 515          DT  51B6DV
 516          DI       0   10000
 517          DQ       0    5300
              *
1                                        HEC-1 INPUT                                                    PAGE 16

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

 518          KK   51B6R
 519          KM   ROUTE 51B6D THROUGH SUBBASIN 52B6 TO CP 51B7C
 520          RK     925    .033    .045            TRAP      10      10
              *

 521          KK  51B6DV
 522          KM   RETRIEVE DIVERTED FLOW 51B6DV
 523          DR  51B6DV
              *

 524          KK   51B7D
 525          KM   DIVERT 58 PERCENT OF 51B6DV TO WEST (42 PERCENT TO SOUTH)
 526          DT  51B7DV
 527          DI       0   10000
 528          DQ       0    5800
              *

 529          KK  51B7R1
 530          KM   ROUTE 51B7D THROUGH SUBBASIN 52B6 TO CP 51B7C
 531          RK     530    .033    .045            TRAP      10      10
              *

 532          KK   51B7C
 533          KM   COMBINE 51B7R1, 51B5R, AND 51B6R
 534          HC       3   .2404
              *

 535          KK  51B7R2
 536          KM   ROUTE 51B7C THROUGH SUBBASIN 52B6 TO CP 52B6C
 537          RK    2300    .033    .045            TRAP      10      10
              *

 538          KK    52B6
 539          KM   RUNOFF FROM SUBBASIN 52B6
 540          BA    .096
 541          LS              75   13.55
 542          UK     100     .02     .10     100
 543          RK    3200    .033    .045            TRAP      30      10
              *

 544          KK   52B6C
 545          KM   COMBINE 51B7R2 AND 52B6
 546          HC       2
              *

 547          KK   52B6R
 548          KM   ROUTE 52B6C THROUGH SUBBASIN 52B7 TO CP 52B7C1
 549          RK    2750    .028    .045            TRAP      10      10
              *
1                                        HEC-1 INPUT                                                    PAGE 17

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

 550          KK    52B7
 551          KM   RUNOFF FROM SUBBASIN 52B7
 552          BA    .080
 553          LS              75   78.45
 554          UK     100     .02     .10     100
 555          RK    2750    .028    .045            TRAP      30      10
              *

 556          KK  52B7C1
 557          KM   COMBINE 52B7 AND 52B6R
 558          HC       2
              *

 559          KK  52B7C2
 560          KM   COMBINE 52B7C1 AND 52B5R
 561          HC       2
              *

 562          KK    52A2
 563          KM   RUNOFF FROM SUBBASIN 52A2
```

```
564          BA    .065
565          LS              75    88.8
566          UK     100     .02     .10     100
567          RK    2900    .023    .045            TRAP      30      10
             *

568          KK  52A2C2
569          KM   COMBINE 52B7C2 AND 52A2
570          HC       2    1.62
             *

571          KK  51B7DV
572          KM   RETRIEVE DIVERTED FLOW 51B7DV
573          DR  51B7DV
             *

574          KK   51B8R
575          KM   ROUTE 51B7DV THROUGH SUBBASIN 52A1 TO CP 52A1C
576          RK    3400    .033    .045            TRAP      10      10
             *

577          KK    52A1
578          KM   RUNOFF FROM SUBBASIN 52A1
579          BA    .130
580          LS              75   32.25
581          UK     100     .02     .10     100
582          RK    3400    .033    .045            TRAP      30      10
             *
```



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

583          KK   52A1C
584          KM   COMBINE 52A1 AND 51B8R
585          HC       2
             *
             *
             *     *******************  END DC RANCH WATERSHED  ********************
             *
             *
             *     ******************  BEGIN GVSCE MODIFICATIONS  ******************
             *

586          KK   D51.1
587          KM   RETRIEVE DIVERTED FLOW
588          DR  B51.1T
             *

589          KK    C52A
590          KM     COMBINE ROUTED HYDROGRAPH FROM C51.1 WITH HYDROGRAPH FROM C52A1C AT
591          KM     THOMPSON PEAK PARKWAY
592          HC       2  1.2600
             *
             *   R52A
             *    DEER VALLEY BASIN OUTLET CONDUIT TO JUNCTION AT SIERRA PINTA CHANNEL
             *    NO ROUTING IN CONDUIT.
             *       L = 3130 feet
             *

593          KK     C52
594          KM     COMBINE ROUTED HYDROGRAPH FROM C52A WITH HYDROGRAPH FROM C52A2C AT
595          KM     BEARDSLEY ROAD
596          HC       2  2.9025
             *

597          KK     R52
598          KM     LAG THE HYDROGRAPH BY ONE TIME STEP TO ACCOUNT FOR TRAVEL TIME IN THE
599          KM     CONDUIT.
600          KM        ASSUME WAVE CELERITY = 15-20 fps AND TOTAL LENGTH OF 4050'
601          RT                      1
             *
             *

602          KK    D52T
603          KM     DIVERT 100% OF FLOW TO RETRIEVE JUST U/S OF THE PIMA FREEWAY EAST-BASIN
604          DT    B52T
605          DI       0   10000
606          DQ       0   10000
             *

607          KK   CLEAR
608          KM     CLEAR HYDROGRAPHS FROM STACK
609          HC       2
             *
             *
             *     ******************  BEGIN GRAYHAWK WATERSHED  *******************
             *
             *       THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
             *           DEI FILE NAME:  GH23FAB.H1I
             *           MODEL DATE:     21 MAY 96
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
610          KK      1B
611          KM        RUNOFF FROM INTERIM SUBBASIN 1B
612          BA  0.3573
613          LS            73.5      15
614          UK     300    0.02    0.13     100
615          RK    1420    0.02   0.045   0.015    TRAP       5      10
616          RK    7000    0.02    0.04            TRAP      10       5
             *

617          KK   37AE1      CP
618          KM        ROUTE NON-DIVERTED FLOW FROM DIV 37AE THROUGH SUB 5N.  THIS IS A
619          KM        PRELIMINARY CHANNEL CONFIGURATION FOR THE GOLF COURSE CHANNEL.
620          RS       1    FLOW
621          RC    .055    .045    .055     800    .025
622          RX       0      16      26      30      40      44      54      70
623          RY       6       2       2       0       0       2       2       6
             *

624          KK   SUB5N
625          KM        RUNOFF FROM SUBBASIN 5 IN NORTH 18 MODEL.
626          BA   0.029
627          LS              77      18
628          UK     100    .013     .15     100
629          RK    1000   0.005    .018    .015    TRAP      50      20
630          RK     500    .015    .025            TRAP      10       4
             *

631          KK    CP5N
632          KM        ADD HYDROGRAPHS AT CP5N
633          HC       2
             *

634          KK   RET5N
635          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 5.  18" PIPE OUTFLOW WILL
636          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
637          RS       1    STOR       0       0
638          SV       0     .04     .33     .93     1.8    2.35    3.16     4.2     6.1
639          SQ       0       8      10      12      15      17     102     191     668
640          SE    1797    1798    1800    1802    1804    1805    1806    1807    1808
             *

641          KK   R6N.1
642          KM        ROUTE FLOW FROM CP5 TO CP6 IN NORTH 18 MODEL
643          KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
644          KM        CHANNEL.
645          RS       1    FLOW
646          RC    .055    .045    .055    2200    .025
647          RX       0      16      26      30      40      44      54      70
648          RY       6       2       2       0       0       2       2       6
             *
```



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

649          KK   SUB6B
650          KM        RUNOFF FROM WEST PORTION OF EXISTING SUB6N ADJACENT TO CHANNEL
651          BA    .032
652          LS              81       0
653          UK     200    .025     .15     100
654          RK    1300    .015    .025            TRAP      10       4
             *

655          KK    SR6B
656          KM        ROUTE FLOW THROUGH RETENTION BASIN IN DRIVING RANGE CHANNEL
657          RS       1    STOR       0       0
658          SV       0     .17     .57    1.12    1.78
659          SQ       0       8      10     120     380
660          SE    1772    1773    1774    1775    1776
             *

661          KK   CP6.1
662          KM        ADD HYDROGRAPHS AT CP6.1
663          HC       2
             *

664          KK   SUB1N
665          KM        RUNOFF FROM SUBBASIN 1N
666          BA    .019
667          LS              77      18
668          UK     100    .013     .15     100
669          RK    1470   .0204    .018            TRAP      50      20
             *

670          KK    R2NA
671          KM        ROUTE FLOW FROM CP1 TO CP2NA
672          RS       1    FLOW
673          RC     .03     .03     .03     400    .025
674          RX       0       8      13      17      22      26      31      39
675          RY       4       2       2       0       0       2       2       4
             *

676          KK  SUB2NA
```

```
677          KM        RUNOFF FROM SUBBASIN 2NA
678          BA    .015
679          LS              81       0
680          UK     150    .013     .15     100
681          RK    1050   .0215    .025            TRAP      20       6
             *

682          KK   CP2NA
683          KM        ADD HYDROGRAPHS AT CP2NA
684          HC       2
             *
```



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

685          KK   SR2NA
686          KM        ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NA
687          RS       1    STOR       0       0
688          SV       0    .076    .291    .708     1.2
689          SQ       0       0       0       0     160
690          SE    1772    1773    1774    1775    1776
             *

691          KK    R2NB
692          KM        ROUTE FLOW FROM CP2NA TO CP2NB
693          RS       1    FLOW
694          RC     .03     .03     .03    1050    .015
695          RX       0       8      13      17      22      26      31      39
696          RY       4       2       2       0       0       2       2       4
             *

697          KK  SUB2NB
698          KM        RUNOFF FROM SUBBASIN 2NB
699          BA     .03
700          LS              77      53
701          UK     150    .013     .15     100
702          RK    1200    .015    .025            TRAP      20      50
             *

703          KK   CP2NB
704          KM        ADD HYDROGRAPHS AT CP2NB
705          HC       2
             *

706          KK   SR2NB
707          KM        STORAGE ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NB
708          RS       1    STOR       0       0
709          SV       0     .19     .69    1.66    3.23     4.5
710          SQ       0       2       8      12      17     170
711          SE    1796    1798    1800    1802    1804    1805
             *

712          KK   RCP4N
713          KM        ROUTE FLOW FROM CP2NB TO CP4N
714          RS       1    FLOW
715          RC     .03     .03     .03     740    .018
716          RX       0       8      13      17      22      26      31      39
717          RY       4       2       2       0       0       2       2       4
             *

718          KK   SUB6N
719          KM        RUNOFF FROM SUBBASIN 6 IN NORTH 18 MODEL.  TO LAKE NORTH OF CLUBHOUSE.
720          BA    .049
721          LS              81       0
722          UK     200    .025     .15     100
723          RK    1300    .015    .025            TRAP      10       4
             *
```



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

724          KK   RET6N
725          KM        RETENTION ROUTING THROUGH LAKE AT HOLE 18, NORTH COURSE.
726          RS       1    STOR
727          SV       0    3.01    6.64   10.75   13.09   15.90
728          SQ       0       0       0      10      26     100
729          SE    1782    1784    1786    1788    1789    1790
             *

730          KK  RCP4N1
731          KM        ROUTE FLOW FROM CP6N TO CP4N
732          RS       1    FLOW
733          RC     .03     .03     .03     550    .018
734          RX       0       8      13      17      22      26      31      39
735          RY       4       2       2       0       0       2       2       4
             *

736          KK  CP4N.1
737          KM        ADD HYDROGRAPHS AT CP4N.1
738          HC       2
             *

739          KK   SUB3N
```

```
 740          KM        RUNOFF FROM SUBBASIN 3N, NORTH 18 MODEL
 741          BA    .027
 742          LS              81       0
 743          UK     100     .02     .15     100
 744          RK    2800  0.0207    .025            TRAP      10       4
              *

 745          KK   RET3N
 746          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 3.  18" PIPE OUTFLOW WILL
 747          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
 748          RS       1    STOR       0       0
 749          SV       0    1.73    8.97   13.32   15.74
 750          SQ       0       4       7       9      11
 751          SE    1793    1795    1800    1803    1804
              *

 752          KK     R4N
 753          KM        ROUTE FLOW FROM CP3N TO CP4N IN NORTH MODEL
 754          RS       1    FLOW
 755          RC    .035    .035    .035     950    .018
 756          RX       0       8      13      17      22      26      31      39
 757          RY       4       2       2       0       0       2       2       4
              *

 758          KK  CP4N.2
 759          KM        ADD HYDROGRAPHS AT CPN.2
 760          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE 23

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

 761          KK   SUB4N
 762          KM        RUNOFF FROM SUBBASIN 4N.
 763          BA    .032
 764          LS              77      18
 765          UK     100    .015     .15     100
 766          RK    1200   0.007    .018            TRAP      50      20
              *

 767          KK    CP4N
 768          KM        ADD HYDROGRAPHS AT CP4N
 769          HC       2
              *

 770          KK     R6N
 771          KM        ROUTE FLOW FROM CP4N TO CP6N ALONG THOMPSON PEAK PKWY AT CLUBHOUSE
 772          RS       1    FLOW
 773          RC    .045    .035    .045     750    .025
 774          RX       0       8      13      17      22      26      31      39
 775          RY       4       2       2       0       0       2       2       4
              *

 776          KK   SUB6A
 777          KM        RUNOFF FROM SUBBASIN 6A (CLUBHOUSE AREA NORTH OF THOMPSON PEAK PKWY).
 778          BA    .013
 779          LS              83      68
 780          UK     100    .015     .12     100
 781          RK     800     .01    .025            TRAP       2       3
              *

 782          KK   CP6.2
 783          KM        ADD HYDROGRAPHS AT CP6.2
 784          HC       2
              *

 785          KK    CP6N
 786          KM        ADD HYDROGRAPHS AT CP6N
 787          HC       2
              *
              *       ABOVE DISCHARGE FROM NORTH 18 THROUGH BRIDGE AT TPP STATION 103+45
              *

 788          KK   RCP6N
 789          KM        ROUTE FLOW FROM CP6N TO CP3C
 790          RS       1    FLOW
 791          RC    .045    .035    .045     300    .015
 792          RX       0       8      13      17      37      45      51      59
 793          RY       4       2       2       0       0       2       2       4
              *
1                                          HEC-1 INPUT                                          PAGE 24

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

 794          KK   SUB3C
 795          KM        RUNOFF FROM SUBBASIN 3C, SOUTH COURSE AT MAINTENANCE FACILITY.
 796          BA   .0104
 797          LS              77      68
 798          UK     100    .025     .02     100
 799          RK     600    .015    .035            TRAP      50      20
              *

 800          KK    CP3C
```

```
801          KM        COMBINE NORTH COURSE HYDROGRAPH WITH FIRST SOUTH COURSE HYDROGRAPH
802          HC       2
             *

803          KK     R3C
804          KM        ROUTE FLOW FROM SUB3C TO CP3 THROUGH GC1018
805          KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
806          KM        CHANNEL.
807          RS       1    FLOW
808          RC    .055    .045    .055    2050    .025
809          RX       0      20      30      40      60      70      80     100
810          RY    1650    1746    1744    1742    1742    1744    1746    1750
             *

811          KK  GC1018
812          KM        RUNOFF FROM HOLES NO. 10, 18 AND DRIVING RANGE THAT CONTRIBUTE TO WASH
813          BA    .044
814          LS              81       0
815          UK     200    .025     .15     100
816          RK    1800   .0233    .025            TRAP      10       4
             *

817          KK   GC1-9
818          KM        RUNOFF FROM GOLF COURSE HOLES 1 & 9 CONTRIBUTING TO WASH
819          BA    .026
820          LS              81       0
821          UK     200    .025     .15     100
822          RK    2110    .022    .025            TRAP      10       4
             *

823          KK   SUB3S
824          KM        RUNOFF FROM SUB BASIN 3 SOUTH COURSE
825          BA   .0102
826          LS              77      53
827          UK     100    .010     .15     100
828          RK     930    .016    .025            TRAP      50      20
             *

829          KK    CP3S
830          KM        COMBINE HYDROGRAPHS AT CP3 SOUTH COURSE
831          HC       4
             *
```



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

832          KK    RT3S
833          KM        ROUTE FLOW FROM CP3S TO CPGC28
834          RS       1    FLOW       0       0
835          RC    .055    .045    .055     900    .023
836          RX       0      20      30      40      60      70      80     100
837          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *

838          KK   SUB4S
839          KM        RUNOFF FROM SUB BASIN 4 SOUTH COURSE
840          BA   .0273
841          LS              77      53
842          UK     100    .010     .15     100
843          RK    1780    .018    .015            TRAP      50      20
             *

844          KK    RT4S
845          KM        ROUTE FLOW FROM CP4S TO CPGC28
846          RS       1    FLOW       0       0
847          RC    .035    .035    .035     650    .015
848          RX       0      20      30      40      45      55      65      75
849          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *

850          KK   GC2-8
851          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES NO. 2 AND 8
852          BA    .014
853          LS              81       0
854          UK     200    .025     .15     100
855          RK     980    .016    .025            TRAP      10       4
             *

856          KK  1PGC28
857          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
858          HC       3
             *

859          KK  SUB3D3
860          KM        RUNOFF FROM GRAYHAWK ROAD SOUTH OF THOMPOSON PEAK
861          BA    .014
862          LS              81       0
863          UK      50    .015      .1     100
864          RK    2450    .016    .025            TRAP       5       4
             *

865          KK  CPGC28
866          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
867          HC       2
```

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

                *
 868            KK  SRGC28
 869            KM        STORAGE THRU DETENTION BASIN ON HOLES 2 AND 8.
 870            RS       1    STOR       0       0
 871            SV       0    .018    .085     .22      .5     1.0     1.7    2.68     3.9
 872            SE    1706    1707    1708    1709    1710    1711    1712    1713    1714
 873            SQ       0      10      18      20      30     108     324     651    1070
                *

 874            KK    RT7S
 875            KM        ROUTE FLOW FROM SRGC28 TO CP7S
 876            RS       1    STOR       0       0
 877            RC    .055    .045    .055    1700   .0187
 878            RX       0      20      30      40      60      70      80     100
 879            RY    1750    1746    1744    1742    1742    1744    1746    1750
                *

 880            KK     GC7
 881            KM        RUNOFF FROM SOUTH GOLF COURSE HOLE NO. 7
 882            BA   .0134
 883            LS              81       0
 884            UK     200    .025     .15     100
 885            RK    1380    .020    .025            TRAP      10       4
                *

 886            KK    CP7S
 887            KM        ADD HYDROGRAPHS AT CP7S ON SOUTH COURSE
 888            HC       2  0.7626
                *

 889            KK    D7ST
 890            KM        D7ST IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
 891            KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
 892            KM
 893            KM        DIVERT 100% OF FLOW
 894            DT    B7ST
 895            DI       0   10000
 896            DQ       0   10000
                *

 897            KK   CLEAR
 898            KM        CLEAR HYDROGRAPHS FROM THE STACK.
 899            HC       2
                *
                *
                * THIS PORTION OF MODEL TAKEN FROM,"DRAINAGE REPORT FOR VILLAGE 3 - PHASE 1",
                * APPROVED BY THE CITY OF SCOTTSDALE 7-19-95.  MODIFIED TO ACCOUNT FOR ASBUILT
                * CONDITION
                *
                *
                *
                *
```



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

 900            KK  SUB3D1
 901            KM        RUNOFF FROM SUBBASIN 3D1, PARCEL 3D.
 902            BA   .0088
 903            LS              77      34
 904            UD     .06
                *

 905            KK   RD1B1
 906            KM        FOUTE FLOW FROM 3D1 TO 3B1
 907            RS       1    FLOW      -1
 908            RC    0.03    0.03    0.03    1250    .015
 909            RX       0     0.5       1       7      12      19    19.5      20
 910            RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
                *

 911            KK  SUB3B1
 912            KM        RUNOFF FROM SUBBASIN 3B1, PARCEL 3B.
 913            BA   .0137
 914            LS              77      47
 915            UD     .06
                *

 916            KK   CP3B1
 917            KM        ADD HYDROGRAGHS AT CP3B1
 918            HC       2
                *

 919            KK   RB13F
 920            KM        ROUTE FLOW FROM 3B1 TO SUB3F
 921            RS       1    FLOW      -1
 922            RC    0.03    0.03    0.03    2150    .015
 923            RX       0     0.5       1       7      17      24    24.5      25
 924            RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
```

```
                *

925             KK   SUB3F
926             KM        RUNOFF FROM SUBBASIN 3F, PARCEL 3F, SOUTH COURSE MODEL.
927             BA   .0344
928             LS              77      68
929             UK    100     .025     .15     100
930             RK   1000     .015    .025            TRAP     100      20
                *

931             KK    CP3F
932             KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3F ALONG THE POWER CORRIDOR
933             HC       2
                *

934             KK  SUB3B2
935             KM        RUNOFF FROM SUBBASIN 3B2, PARCEL 3B.
936             BA   .0246
937             LS              77      40
938             UD     .10
                *
```



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

939             KK   RB2E1
940             KM        1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
941             RS       1    FLOW      -1
942             RC    0.03    0.03    0.03     800    0.02
943             RX       0     0.5       1       7      17      24    24.5      25
944             RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
                *

945             KK   RB2E2
946             KM       SECOND 1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
947             RS       1    FLOW      -1
948             RC    0.03    0.03    0.03     600    .015
949             RX       0     0.5       1       7      17      24    24.5      25
950             RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
                *

951             KK  SUB3E1
952             KM        RUNOFF FROM SUBBASIN 3E1, PARCEL 3E.
953             BA   .0246
954             LS              77      40
955             UD     .10
                *

956             KK  1CPE31
957             KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E1 ALONG THE POWER CORRIDOR
958             HC       2
                *

959             KK  SUB3D2
960             KM        RUNOFF FROM SUBBASIN 3D2, PARCEL 3D.
961             BA    .022
962             LS              77      35
963             UD     .08
                *

964             KK   RD2E2
965             KM        ROUTE EXCESS FROM 3D2 TO CP3E2
966             RS       1    FLOW      -1
967             RC    0.03    0.03    0.03    1200   .0216
968             RX       0     0.5       1       7      17      24    24.5      25
969             RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
                *

970             KK  SUB3E2
971             KM        RUNOFF FROM SUBBASIN 3E2, PARCEL 3E.
972             BA    .012
973             LS              77      35
974             UD     .06
                *
```



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

975             KK   CP3E2
976             KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E2 ALONG THE POWER CORRIDOR
977             HC       2
                *

978             KK     PC3
979             KM        PC3 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
980             KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
981             KM
982             KM        RUNOFF FROM SUBBASIN PC3.
983             BA  0.0434
984             LS              77      10
985             UK    300     .015     .15     100
986             RK   2200      .01     .03            TRAP      30       4
                *
```

```
 987          KK    CPC3
 988          KM        CPC3 IS A CONCENTRATION POINT ADDED BY GVSCE TO ESTIMATE THE INFLOW TO
 989          KM        THE POWER LINE CHANNEL AT THE HAYDEN ROAD CROSSING.
 990          KM
 991          KM        COMBINE ROUTED HYDROGRAPH FROM SRPC2 W/HYDROGRAPHS FROM CP3E1, CP3E2 AND
 992          KM        CP3F AND RUNOFF FROM PC3.
 993          HC       4  0.1835
              *

 994          KK   DPC3T
 995          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
 996          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
 997          KM
 998          KM        DIVERT 100% OF FLOW
 999          DT   BPC3T
1000          DI       0   10000
1001          DQ       0   10000
              *

1002          KK  SUB3E3
1003          KM        RUNOFF FROM SUBBASIN 3E3, PARCEL 3E.
1004          BA    .020
1005          LS              77      32
1006          UD     .06
              *

1007          KK     PC4
1008          KM        PC4 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1009          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1010          KM
1011          KM        RUNOFF FROM SUBBASIN PC4.
1012          BA  0.0217
1013          LS              77       0
1014          UK     300    .015     .15     100
1015          RK    1100     .01     .03            TRAP      30       4
              *
1                                        HEC-1 INPUT                                          PAGE 30

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

1016          KK     D7S
1017          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1018          KM        LOOP DETENTION BASIN VIA THE POWER LINE CHANNEL.
1019          KM
1020          KM        RETRIEVE DIVERTED FLOW
1021          DR    B7ST
              *

1022          KK    CPC4
1023          KM        THE HEC1 OPREATION TEMPAD IS CHANGED BY GVSCE TO ESTIMATE THE INFLOW TO
1024          KM        THE POWER LINE CHANNEL WHERE THE FLOW FROM CP7S ENTERS THE CHANNEL.
1025          KM
1026          KM        COMBINE HYDROGRAPH FROM CP3E3 W/RUNOFF FROM PC4.
1027          HC       3  0.8043
              *

1028          KK   DPC4T
1029          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1030          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1031          KM
1032          KM        DIVERT 100% OF FLOW
1033          DT   BPC4T
1034          DI       0   10000
1035          DQ       0   10000
              *

1036          KK   CLEAR
1037          KM        CLEAR HYDROGRAPHS FROM THE STACK.
1038          HC       3
              *
              *
              *       THIS ENDS THE PORTION OF THE MODEL TAKEN FROM DRAINAGE REPORT
              *       FOR VILLAGE 3 - PHASE I HEC-1 MODEL BY GILBERTSON ASSOC. INC.
              *       DATED 7-19-95
              *
              *
              *
              * RETURN TO NORTH 18\VILLAGE 2\TPP3 MODEL.
              * THE REMAINDER OF THE SUBBASINS IN THIS  MODEL  WILL CONTRIBUTE TO THE
              * PROPOSED CHANNNEL IN THE POWER EASEMENT AS IDENTIFIED IN THE
              * "COMMUNITY DRAINAGE STUDY - CORE NORTH AND WILL DISCHARGE TO REGIONAL
              * RETENTION BASIN 38R1.
              *
              *

1039          KK     1A1
1040          KM        RUNOFF FROM INTERIM SUBBASIN 1A
1041          BA  0.7465
1042          LS              70       0
1043          UK     300    0.02    0.13     100
1044          RK    1420   0.032   0.045  0.0061    TRAP       0      13
1045          RK   10800   0.033   0.045            TRAP      10       9
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1046          KK    R1A1
1047          KM
1048          RS       3    FLOW      -1
1049          RC   0.035   0.035   0.035    6000   0.025
1050          RX    1000    1010    1020    1030    1080    1090    1100    1110
1051          RY       3       2       1       0       0       1       2       3
              *

1052          KK     1A2
1053          KM         RUNOFF FROM INTERIM SUBBASIN 1A
1054          BA  0.6108
1055          LS            74.5      25
1056          UK     150    0.01    0.10     100
1057          RK    1000    0.02   0.025   0.028    TRAP       0      20
1058          RK    5000   0.025   0.035            TRAP      50      10
              *

1059          KK     C1A
1060          KM
1061          HC       2
              *

1062          KK    R14R
1063          KM         ROUTE FLOW FROM DIVERT AT DEER VALLEY ROAD (UPSTREAM OF SUBBAIN 5) TO
1064          KM         RET14.1
1065          RS       1    FLOW
1066          RC    .055    .045    .055    2900     .01
1067          RX       0      16      26      30      50      54      64      80
1068          RY       6       2       2       0       0       2       2       6
              * RET 141 HAS BEEN REVISED FOLLOWING REFINEMENT OF GRADING PLANS 11-16-94
              *

1069          KK  RET141
1070          KM         ROUTE FLOW THROUGH RETENTION BASIN NO. 14.1.  18" PIPE OUTFLOW WILL
1071          KM         BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1072          RS       1    STOR       0       0
1073          SV       0     .46    2.79    4.56    5.71    6.92    8.24
1074          SQ       0      11      15      22     147     463     968
1075          SE    1778    1785    1790    1792    1793    1794    1795
              *

1076          KK   R14.1
1077          KM         ROUTE FLOW FROM RET14.1 TO CP14
1078          KM         RET14.1
1079          RS       1    FLOW
1080          RC    .055    .045    .055    1900     .01
1081          RX       0      16      26      30      50      54      64      80
1082          RY       6       2       2       0       0       2       2       6
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1083          KK  SUB13N
1084          KM         RUNOFF FROM SUBBASIN 13 NORTH 18 MODEL.
1085          BA    .037
1086          LS              77      24
1087          UK     100    .015     .15     100
1088          RK    2400    .007    .018            TRAP      50      20
              *

1089          KK   R14.1
1090          KM         ROUTE FLOW FROM CP13 TO RET14 NORTH 18 MODEL.
1091          RS       1    FLOW
1092          RC    .055    .045    .055     950    .025
1093          RX       0       8      13      17      22      26      31      39
1094          RY       4       2       2       0       0       2       2       4
              *

1095          KK  SUB14N
1096          KM         RUNOFF FROM SUBBASIN 14 NORTH 18 MODEL:
1097          BA    .049
1098          LS              81       0
1099          UK     300    .025     .15     100
1100          RK    2300     .01    .025            TRAP      10       4
              *

1101          KK    CP14
1102          KM         ADD HYDROGRAPHS AT CP14
1103          HC       3
              *

1104          KK   RET14
1105          KM         ROUTE FLOW THROUGH RETENTION BASIN NO. 14.  18" PIPE OUTFLOW WILL
1106          KM         BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1107          RS       1    STOR       0       0
1108          SV       0     .08     .31    1.01    2.16    3.20    4.19    5.69     7.8
1109          SQ       0      14      16      18      20      22     155     464     750
1110          SE    1744    1746    1748    1750    1752    1753    1754    1755    1756
```

```
                 *

1111             KK   R18.1
1112             KM        ROUTE FLOW FROM RET14 TO CP18
1113             RS       1    FLOW
1114             RC    .055    .045    .055     500    .016
1115             RX       0      16      26      34      54      68      78      96
1116             RY       6       2       2       0       0       2       2       6
                 *

1117             KK  SUB20N
1118             KM        RUNOFF FROM SUBBASIN 20.
1119             BA    .024
1120             LS              77      24
1121             UK     200     .01     .15     100
1122             RK    1400     .02    .018            TRAP      50      20
                 *
1                                          HEC-1 INPUT                                                    PAGE 33

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

1123             KK     R19
1124             KM        ROUTE FLOW FROM CP20 TO CP19
1125             RS       1    FLOW
1126             RC    .035    .035    .035     700     .02
1127             RX       0       8      13      17      22      26      31      39
1128             RY       4       2       2       0       0       2       2       4
                 *

1129             KK  SUB19N
1130             KM        RUNOFF FROM SUBBASIN 19.
1131             BA    .038
1132             LS              77      31
1133             UK     150     .01     .15     100
1134             RK    1800    .015    .018            TRAP      50      20
                 *

1135             KK   CP19N
1136             KM        ADD HYDROGRAPHS  AT CP19N
1137             HC       2
                 *

1138             KK   R18NC
1139             KM        ROUTE FLOW FROM  CP19N TO CP18NC
1140             RS       1    FLOW
1141             RC    .035    .035    .035     700    .013
1142             RX       0       8      13      17      27      31      36      44
1143             RY       4       2       2       0       0       2       2       4
                 *

1144             KK  UB18NC
1145             KM        RUNOFF FROM SUBBASIN 18NC.
1146             BA    .021
1147             LS              77      42
1148             UK     100     .01     .15     100
1149             RK    1550     .02    .018            TRAP      50      20
                 *

1150             KK  CP18NC
1151             KM        ADD HYDROGRAPHS  AT CP18NC (INCLUDES R18.1, R18, AND SUB18)
1152             HC       3
                 *

1153             KK    RPC1
1154             KM        ROUTE FLOW FROM CP18N TO CPC1.
1155             RS       1    FLOW
1156             RC    .035    .035    .035     510    .013
1157             RX       0      16      26      34      64      78      88     106
1158             RY       6       2       2       0       0       2       2       6
                 *
1                                          HEC-1 INPUT                                                    PAGE 34

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

1159             KK  UB18NA
1160             KM        RUNOFF FROM SUBBASIN 18NA.
1161             BA    .022
1162             LS              77      42
1163             UK     100     .01     .15     100
1164             RK    1450     .02    .018            TRAP      50      20
                 *

1165             KK   1RPC1
1166             KM        ROUTE FLOW FROM CP18NA TO CPC1.
1167             RS       1    FLOW
1168             RC    .035    .035    .035    2550     .01
1169             RX       0      16      26      34      64      78      88     106
1170             RY       8       4       2       0       0       2       4       8
                 *

1171             KK  UB18NB
1172             KM        RUNOFF FROM SUBBASIN 18NB.
1173             BA   .0096
```

```
1174          LS              77      42
1175          UK     100     .01     .15     100
1176          RK     800     .02    .018            TRAP      50      20
              *

1177          KK   2RPC1
1178          KM        ROUTE FLOW FROM CP18NB TO CPC1.
1179          RS       1    FLOW
1180          RC    .035    .035    .035    2000     .01
1181          RX       0      16      26      34      64      78      88     106
1182          RY       8       4       2       0       0       2       4       8
              *

1183          KK     PC1
1184          KM        RUNOFF FROM SUBBASIN PC1.
1185          BA    .062
1186          LS              77      10
1187          UK     500    .015     .15     100
1188          RK    2700     .01     .03            TRAP      30       4
              *

1189          KK   1CPC1
1190          KM        ADD HYDROGRAPHS  AT CPC1.
1191          HC       3
              *

1192          KK   SRPC1
1193          KM        STOAGE ROUTE THROUGH DET BASIN IN POWER CORRIDOR.
1194          RS       1    STOR       0       0
1195          SV       0     .29     .73
1196          SQ       0       0     350
1197          SE    1747    1748    1749
              *
1                                          HEC-1 INPUT                                                    PAGE 35

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

1198          KK    CPC1
1199          KM        ADD HYDROGRAPHS  AT CPC1.
1200          HC       2
              *

1201          KK  R16NA1
1202          KM        ROUTE FLOW FROM CPC1 TO C16NA1.
1203          RS       1    FLOW
1204          RC    .035    .035    .035     700    .013
1205          RX       0      16      26      34      74      88      98     116
1206          RY       8       4       2       0       0       2       4       8
              *

1207          KK  UB16NA
1208          KM        RUNOFF FROM SUBBASIN 16NA.
1209          BA   .0139
1210          LS              77      42
1211          UK     100    .015     .15     100
1212          RK    1500    .015    .022            TRAP      50      20
              *

1213          KK  R16NA1
1214          KM        ROUTE FLOW FROM CP16NA TO CP16NA1.
1215          RS       1    FLOW
1216          RC    .035    .035    .035     550    .013
1217          RX       0      16      26      34      44      58      68      86
1218          RY       6       2       2       0       0       2       2       6
              *

1219          KK  C16NA1
1220          KM        ADD HYDROGRAPHS  AT CP16NA1.
1221          HC       2
              *

1222          KK  R16NB1
1223          KM        ROUTE FLOW FROM CP16NA1 TO CP16NB1.
1224          RS       1    FLOW
1225          RC    .035    .035    .035     650    .013
1226          RX       0      16      26      34      74      88      98     116
1227          RY       8       4       2       0       0       2       4       8
              *

1228          KK  UB16NB
1229          KM        RUNOFF FROM SUBBASIN 16NB.
1230          BA   .0156
1231          LS              77      42
1232          UK     100    .015     .15     100
1233          RK    1500    .015    .022            TRAP      50      20
              *
1                                          HEC-1 INPUT                                                    PAGE 36

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

1234          KK  R16NB1
1235          KM        ROUTE FLOW FROM CP16NB TO CP16NB1.
1236          RS       1    FLOW
```

```
1237          RC    .035    .035    .035     550    .013
1238          RX       0      16      26      34      44      58      68      86
1239          RY       6       2       2       0       0       2       2       6
              *

1240          KK  C16NB1
1241          KM        ADD HYDROGRAPHS  AT CP16NB1.
1242          HC       2
              *

1243          KK  R16NC1
1244          KM        ROUTE FLOW FROM CP16NB1 TO CP16NC1.
1245          RS       1    FLOW
1246          RC    .035    .035    .035     650    .013
1247          RX       0      16      26      34      54      68      78      96
1248          RY       6       2       2       0       0       2       2       6
              *

1249          KK   SUB7N
1250          KM        RUNOFF FROM SUBBASIN 7N.
1251          BA    .031
1252          LS              77      18
1253          UK     100    .015     .15     100
1254          RK    1900     .01    .018            TRAP      50      20
              *

1255          KK    R8NC
1256          KM        ROUTE FLOW FROM CP7N TO CP8NC.
1257          RS       1    FLOW
1258          RC    .055    .045    .055     700    .025
1259          RX       0       8      13      17      22      26      31      39
1260          RY       4       2       2       0       0       2       2       4
              *

1261          KK  SUB8NA
1262          KM        RUNOFF FROM SUBBASIN 8NA.
1263          BA   .0046
1264          LS              81       0
1265          UK     100     .03     .15     100
1266          RK     450     .03    .025            TRAP      20       6
              *

1267          KK   SR8NA
1268          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NA.
1269          RS       1    STOR       0       0
1270          SV       0     .51    .816
1271          SQ       0       1      43
1272          SE    1791    1795    1796
              *
```



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

1273          KK    R8NB
1274          KM        ROUTE FLOW FROM CP8NA TO CP8NB.
1275          RS       1    FLOW
1276          RC    .025    .025    .025     300     .03
1277          RX       0      12      24      36      56      68      80      92
1278          RY       6       4       2       0       0       2       4       6
              *

1279          KK  SUB8NB
1280          KM        RUNOFF FROM SUBBASIN 8NB.
1281          BA   .0142
1282          LS              81       0
1283          UK     100     .03     .15     100
1284          RK    1150    .025    .025            TRAP      20       6
              *

1285          KK   CP8NB
1286          KM        ADD HYDROGRAPHS AT CP8NB.
1287          HC       2
              *

1288          KK   SR8NB
1289          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NB.
1290          RS       1    STOR       0       0
1291          SV       0   .0124   1.754    2.45
1292          SQ       0       2       2      72
1293          SE    1784    1785    1790    1791
              *

1294          KK    R8NC
1295          KM        ROUTE FLOW FROM CP8NB TO CP8NC.
1296          RS       1    FLOW
1297          RC    .025    .025    .025     500     .03
1298          RX       0      12      24      36      56      68      80      92
1299          RY       6       4       2       0       0       2       4       6
              *

1300          KK  SUB8NC
1301          KM        RUNOFF FROM SUBBASIN 8NC.
1302          BA   .0182
1303          LS              81       0
```

```
1304          UK     100      .03      .15      100
1305          RK     900      .03     .025              TRAP      20       6
              *

1306          KK   CP8NC
1307          KM        ADD HYDROGRAPHS AT CP8NC.
1308          HC       3
              *
```



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

1309          KK   SR8NC
1310          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NC.
1311          RS       1    STOR       0       0
1312          SV       0    .404   2.444    3.13   3.979
1313          SQ       0      10      14     151    1004
1314          SE    1771    1775    1780    1781    1782
              *

1315          KK     R9N
1316          KM        ROUTE FLOW FROM CP8N TO CP9N.
1317          RS       1    FLOW
1318          RC    .025    .025    .025    1150    .025
1319          RX       0       8      13      17      22      26      31      39
1320          RY       4       2       2       0       0       2       2       4
              *

1321          KK   SUB9N
1322          KM        RUNOFF FROM SUBBASIN 9N.
1323          BA    .055
1324          LS              77      28
1325          UK     100    .008     .15     100
1326          RK    1700     .01    .018              TRAP      50      20
              *

1327          KK    CP9N
1328          KM        ADD HYDROGRAPHS AT CP9N
1329          HC       2
              *

1330          KK    R10B
1331          KM        ROUTE FLOW FROM CP9N TO CP10B.
1332          RS       1    FLOW
1333          RC     .03     .03     .03     400     .02
1334          RX       0       8      16      24      29      37      45      53
1335          RY       6       4       2       0       0       2       4       6
              *

1336          KK  SUB10B
1337          KM        RUNOFF FROM SUBBASIN 10B.
1338          BA    .028
1339          LS              77      42
1340          UK     100    .015     .15     100
1341          RK     350    .008    .018              TRAP      50      20
1342          RK     600    .008    .025              TRAP      10       4
              *

1343          KK   CP10B
1344          KM        ADD HYDROGRAPHS AT CP10B
1345          HC       2
              *
```



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

1346          KK   R11NA
1347          KM        ROUTE FLOW FROM CP10B TO CP11NA.
1348          RS       1    FLOW
1349          RC     .03     .03     .03     200     .04
1350          RX       0       8      16      24      29      37      45      53
1351          RY       6       4       2       0       0       2       4       6
              *

1352          KK  UB11NA
1353          KM        RUNOFF FROM SUBBASIN 11NA.
1354          BA   .0076
1355          LS              81       0
1356          UK     100    .025     .15     100
1357          RK     500     .03    .025              TRAP      30       6
              *

1358          KK  CP11NA
1359          KM        ADD HYDROGRAPHS AT CP11NA
1360          HC       2
              *

1361          KK  SR11NA
1362          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NA.
1363          RS       1    STOR       0       0
1364          SV       0   .0462   1.425   2.480   3.109   3.856
1365          SQ       0      10      27      27      27     237
1366          SE    1734    1735    1740    1742    1743    1744
```

```
                 *

1367             KK   R11NB
1368             KM        ROUTE FLOW FROM CP11NA TO CP11NB.
1369             RS       1    FLOW
1370             RC    .025    .025    .025     250     .03
1371             RX       0      12      24      36      56      68      80      92
1372             RY       6       4       2       0       0       2       4       6
                 *

1373             KK  UB11NB
1374             KM        RUNOFF FROM SUBBASIN 11NB.
1375             BA   .0078
1376             LS              81       0
1377             UK     100     .04     .15     100
1378             RK     700    .025    .025            TRAP      30       6
                 *

1379             KK  CP11NB
1380             KM        ADD HYDROGRAPHS AT CP11NB
1381             HC       2
                 *
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LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1382             KK  SR11NB
1383             KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NB.
1384             RS       1    STOR       0       0
1385             SV       0    1.56   2.586
1386             SQ       0      27     111
1387             SE    1732    1737    1738
                 *

1388             KK   R11NC
1389             KM        ROUTE FLOW FROM CP11NB TO CP11NC.
1390             RS       1    FLOW
1391             RC    .025    .025    .025     300     .03
1392             RX       0      12      24      36      56      68      80      92
1393             RY       6       4       2       0       0       2       4       6
                 *

1394             KK  UB11NC
1395             KM        RUNOFF FROM SUBBASIN 11NC.
1396             BA   .0069
1397             LS              81       0
1398             UK     100     .03     .15     100
1399             RK     650    .028    .025            TRAP      20       5
                 *

1400             KK  C11NC1
1401             KM        ADD HYDROGRAPHS AT CP11NC.1
1402             HC       2
                 *

1403             KK  SUB10A
1404             KM        RUNOFF FROM SUBBASIN 10A.
1405             BA    .030
1406             LS              77      42
1407             UK     100    .015     .15     100
1408             RK     350    .008    .018            TRAP      50      20
1409             RK     800    .008    .025            TRAP      10       4
                 *

1410             KK   R12NB
1411             KM        ROUTE FLOW FROM CP10A TO CP12NB.
1412             RS       1    FLOW
1413             RC    .025    .025    .025     400     .03
1414             RX       0      12      24      36      46      58      70      82
1415             RY       6       4       2       0       0       2       4       6
                 *

1416             KK  UB12NA
1417             KM        RUNOFF FROM SUBBASIN 12NA.
1418             BA   .0153
1419             LS              81       0
1420             UK     150    .025     .15     100
1421             RK     650    .017    .025            TRAP      30       6
                 *
1                                          HEC-1 INPUT                                                PAGE 41

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


1422             KK  SR12NA
1423             KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB1NA.
1424             RS       1    STOR       0       0
1425             SV       0    2.16   3.426   5.071
1426             SQ       0       1       2     142
1427             SE    1741    1745    1746    1747
                 *

1428             KK   R12NA
1429             KM        ROUTE FLOW FROM CP12NA TO CP12NB.
```

```
1430          RS       1    FLOW
1431          RC    .025    .025    .025     550    .025
1432          RX       0      12      24      36      46      58      70      82
1433          RY       6       4       2       0       0       2       4       6
              *

1434          KK  UB12NB
1435          KM        RUNOFF FROM SUBBASIN 12NB.
1436          BA   .0157
1437          LS              81       0
1438          UK     150    .025     .15     100
1439          RK     650    .017    .025            TRAP      30       6
              *

1440          KK  CP12NB
1441          KM        ADD 3 HYDROGRAPHS AT CP12NB
1442          HC       3
              *

1443          KK  SR12NB
1444          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB12NB.
1445          RS       1    STOR       0       0
1446          SV       0    .922    4.24    7.53
1447          SQ       0       2       2     142
1448          SE    1741    1745    1746    1747
              *

1449          KK  R11NC2
1450          KM        ROUTE FLOW FROM CP12NA TO CP11NC.
1451          RS       1    FLOW
1452          RC    .025    .025    .025     550     .01
1453          RX       0      12      24      36      46      58      70      82
1454          RY       6       4       2       0       0       2       4       6
              *

1455          KK  CP11NC
1456          KM        ADD HYDROGRAPHS  AT CP11NC
1457          HC       2
              *
```



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

1458          KK  SR11NC
1459          KM        ROUTE FLOW THROUGH RETENTION BASIN RT11NC.  18" PIPE OUTFLOW WILL
1460          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1461          RS       1    STOR       0       0
1462          SV       0   1.665   2.303   3.062
1463          SQ       0      27     111     344
1464          SE    1730    1735    1736    1737
              *

1465          KK   R16NC
1466          KM        ROUTE FLOW FROM CP11NC TO CP16NC.
1467          RS       1    FLOW
1468          RC    .035    .035   0.035     950    .025
1469          RX       0       8      13      17      22      26      31      39
1470          RY       4       2       2       0       0       2       2       4
              *

1471          KK  UB16NC
1472          KM        RUNOFF FROM SUBBASIN 16NC.
1473          BA   .0337
1474          LS              77      42
1475          UK     100    .015     .15     100
1476          RK    1600    .015    .022            TRAP      50      20
              *

1477          KK  CP16NC
1478          KM        ADD HYDROGRAPHS  AT CP16NC
1479          HC       2
              *

1480          KK  R16NC1
1481          KM        ROUTE FLOW FROM CP16NC TO CP16NC1.
1482          RS       1    FLOW
1483          RC     .03     .03     .03     550    .013
1484          RX       0      16      26      34      44      58      68      86
1485          RY       6       2       2       0       0       2       2       6
              *

1486          KK  C16NC1
1487          KM        ADD HYDROGRAPHS  AT CP16NC1.
1488          HC       2
              *

1489          KK   R15N1
1490          KM        ROUTE FLOW FROM CP16NC1 TO CP15N1.
1491          RS       1    FLOW
1492          RC    .035    .035    .035     600    .013
1493          RX       0      16      26      34      54      68      78      96
1494          RY       6       2       2       0       0       2       2       6
              *
```

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

1495          KK     PC2
1496          KM        RUNOFF FROM SUBBASIN PC2.
1497          BA    .054
1498          LS              77      10
1499          UK     100    .015     .15     100
1500          RK    2700     .01     .03            TRAP      50       4
              *

1501          KK  CP15N1
1502          KM        ADD HYDROGRAPHS  AT CP15N1
1503          HC       2
              *

1504          KK   SRPC2
1505          KM        STORAGE ROUTE THRU DETENTION BASINS IN POWER CORRIDOR THIS IS THE TOTAL
1506          KM        FLOW REACHING THE UPSTREAM SIDE OF THE THOMPSON PEAK PARKWAY BRIDGE
1507          RS       1    STOR       0       0
1508          SV       0    1.02    2.70    4.48     5.8     6.9
1509          SQ       0       0     150     350     550     850
1510          SE    1730    1731    1732    1733    1734    1735
              *

1511          KK  UB17NA
1512          KM        RUNOFF FROM SUBBASIN SUB17NA.
1513          BA  .00979
1514          LS              81       0
1515          UK     150    .025     .05     100
1516          RK     960   .0292    .025            TRAP      30      50
              *

1517          KK  SR17NA
1518          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NA.
1519          RS       1    STOR       0       0
1520          SV       0   .0078    .241    .523    1.00   1.735
1521          SQ       0       1       1       1    17.4     251
1522          SE  1755.2    1756    1758    1759    1760    1761
              *

1523          KK   R17NB
1524          KM        ROUTE FLOW FROM SR17NA TO CP17NB.
1525          RS       1    FLOW
1526          RC    0.03    0.03    0.03     280  0.0286
1527          RX       0      10      20      35      70      85      90     100
1528          RY    1757  1756.8  1756.6    1756    1756    1757    1758    1759
              *

1529          KK  UB17NB
1530          KM        RUNOFF FROM SUBBASIN SUB17NB.
1531          BA   .0111
1532          LS              81       0
1533          UK     150    .025     .05     100
1534          RK    1200   .0217    .025            TRAP      30      50
              *
1                                          HEC-1 INPUT                                          PAGE 44

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

1535          KK  CP17NB
1536          KM        ADD HYDROGRAPHS AT SUB17NB.
1537          HC       2
              *

1538          KK  SR17NB
1539          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NB.
1540          RS       1    STOR       0       0
1541          SV       0   .0113   .1469    .635   .9795   1.509   2.254   3.243
1542          SQ       0       1       1       1       1       1    38.2     189
1543          SE  1751.5    1752    1753    1755    1756    1757    1758    1759
              *

1544          KK    R17A
1545          KM        ROUTE FLOW FROM SR17NB TO CP17A.
1546          RS       1    FLOW
1547          RC    0.03    0.03    0.03     280   0.033
1548          RX       0      15      18      20      24      27      30      35
1549          RY    1755    1754    1753    1752    1752    1753    1754    1755
              *

1550          KK  SUB17A
1551          KM        RUNOFF FROM SUBBASIN SUB17A.
1552          BA  .00792
1553          LS              77      34
1554          UK      75     .03     .05     100
1555          RK    1500     .02    .025            TRAP       8       4
              *

1556          KK  CP17A1
1557          KM        ADD HYDROGRAPHS AT CP17A1.
1558          HC       2
              *
```

```
1559          KK  UB17NC
1560          KM        RUNOFF FROM SUBBASIN SUB17NC.
1561          BA  .00559
1562          LS              77      12
1563          UK      75     .03     .05     100
1564          RK     910   .0187    .025            TRAP       8       4
              *

1565          KK   CP17A
1566          KM        ADD ALL HYDROGRAPHS AT CP17A.
1567          HC       2
              *

1568          KK    R15N
1569          KM        ROUTE FLOW FROM CP17A TO CP15N.
1570          RS       1    FLOW
1571          RC    .035    .035    .035    1950    .025
1572          RX       0       8      13      17      22      26      31      39
1573          RY       4       2       2       0       0       2       2       4
              *
```



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

1574          KK  SUB15N
1575          KM        RUNOFF FROM SUBBASIN 15N.
1576          BA   .0391
1577          LS              77      68
1578          UK     100     .01     .15     100
1579          RK     400    .008    .018            TRAP      50      20
1580          RK    1700    .015    .025            TRAP      10       4
              *

1581          KK   CP15N
1582          KM        ADD HYDROGRAPHS  AT CP15N
1583          HC       2
              *

1584          KK   R15N2
1585          KM        ROUTE FLOW FROM CP15N TO CP15N1.
1586          RS       1    FLOW
1587          RC     .02     .02     .02     700    .013
1588          RX       0       8      13      17      22      26      31      39
1589          RY       6       2       2       0       0       2       2       6
              *

1590          KK  CP15N2
1591          KM        ADD HYDROGRAPHS  AT CP15N1
1592          KM        THIS IS THE INTERIM OUTFLOW DISCHARGE TO NATURAL WASH.
1593          HC       2  2.0449
              *

1594          KK   R15N2
1595          KM        ROUTE 15N2 IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CP15N2 TO THE
1596          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1597          KM
1598          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1599          RS       1    FLOW      -1
1600          RC    .035    .035    .035    2200    .013
1601          RX       0      16      26      34      64      78      88     106
1602          RY       6       2       2       0       0       2       2       6
              *

1603          KK    DPC3
1604          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1605          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1606          KM
1607          KM        RETRIEVE DIVERTED FLOW
1608          DR   BPC3T
              *

1609          KK   CPC3A
1610          KM        COMBINE CPC3A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE AT THE
1611          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1612          KM
1613          KM        COMBINE ROUTED HYDROGRAPH FROM CP15N2 WITH HYDROGRAPH FROM CPC3
1614          HC       2  2.2284
              *
```



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

1615          KK   RPC3A
1616          KM        ROUTE PC3A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC3A VIA
1617          KM        THE POWER LINE CHANNEL.
1618          KM
1619          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1620          RS       1    FLOW      -1
1621          RC    .035    .035    .035    1100    .013
1622          RX       0      16      26      34      64      78      88     106
1623          RY       6       2       2       0       0       2       2       6
              *
```

```
1624          KK    DPC4
1625          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1626          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1627          KM
1628          KM        RETRIEVE DIVERTED FLOW
1629          DR   BPC4T
              *

1630          KK   CPC4A
1631          KM        COMBINE CPC4A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE IN THE
1632          KM        POWER LINE CHANNEL
1633          KM
1634          KM        COMBINE ROUTED HYDROGRAPH FROM CPC3A WITH HYDROGRAPH FROM CPC4
1635          HC       2  3.0327
              *

1636          KK   RPC4A
1637          KM        ROUTE PC4A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC4A TO THE
1638          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI RD.
1639          KM
1640          KM        ROUTE FLOW FROM CPC4A TO CPC5.
1641          RS       1    FLOW      -1
1642          RC    .035    .035    .035    1900    .013
1643          RX       0      16      26      34      64      78      88     106
1644          RY       6       2       2       0       0       2       2       6
              *

1645          KK  DPC4AT
1646          KM        DIVERT PC4A IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1647          KM        FREEWAY EAST-BASIN VIAL THE POWER LINE CHANNEL.
1648          KM
1649          KM        DIVERT 100% OF FLOW
1650          DT  BPC4AT
1651          DI       0   10000
1652          DQ       0   10000
              *

1653          KK  SUB1-2
1654          KM        RUNOFF FROM SUB 1 AND 2, SOUTH COURSE MODEL
1655          BA   .0558
1656          LS              77      68
1657          UK    200    .010     .15     100
1658          RK   1370    .027    .015            TRAP      50      20
              *
```



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

1659          KK  GCRB18
1660          KM        RUNOFF FROM GOLF COURSE CONTRIBUTING TO RETENTION BASIN AT HOLE NO. 18
1661          KM        AND HOLE NO. 10, SOUTH COURSE
1662          BA    .012
1663          LS              81       0
1664          UK    200    .025     .15     100
1665          RK    300    .016    .025            TRAP      10       4
              *

1666          KK  CPRET1
1667          KM        COMBINE HYDROGRAPHS AT RETENTION BASINS ON HOLE 18 & 10
1668          HC       2
              *

1669          KK   SR18S
1670          KM        STORAGE ROUTE THRU RETENTION BASIN AT HOLE 18, SOUTH COURSE
1671          RS       1    STOR       0       0
1672          SV       0  1.7635  5.7722  12.174  21.337  28.849  30.151      32
1673          SE    1725    1730    1735    1740    1745    1748    1749    1750
1674          SQ       0       0       0       0       0      42     386     900
              *

1675          KK   SUB5S
1676          KM        RUNOFF FROM SUB 5S
1677          BA   .0263
1678          LS              77      31
1679          UK    100    .010     .15     100
1680          RK   1280    .007    .015            TRAP      50      20
              *

1681          KK  GC1216
1682          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 12, 16, AND 17
1683          BA   .0365
1684          LS              81       0
1685          UK    200    .025     .15     100
1686          RK   2200    .024    .025            TRAP      10       4
              *

1687          KK  GC1415
1688          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 13, 14, 15 AND RETENTION
1689          BA    .045
1690          LS              81       0
1691          UK    200    .025     .15     100
1692          RK   1300    .022    .025            TRAP      10       4
              *
```

```
1693          KK   SUB6S
1694          KM        RUNOFF FROM SUB BASIN 6, SOUTH COURSE
1695          BA    .021
1696          LS              77      42
1697          UK     100    .010     .15     100
1698          RK    2150    .013    .025            TRAP      50      20
              *
1                                          HEC-1 INPUT                                                    PAGE 48

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


1699          KK   SUB7S
1700          KM        RUNOFF FROM SUB BASIN 7, SOUTH COURSE
1701          BA    .027
1702          LS              77      42
1703          UK     100    .010     .15     100
1704          RK    2080    .023    .025            TRAP      50      20
              *

1705          KK  CPRET2
1706          KM        COMBINE HYDROGRAPHS AT RETENTION BASIN 2, SOUTH COURSE
1707          HC       5
              *

1708          KK  SRRET2
1709          KM        STORAGE THRU RETENTION BASIN NO. 2, SOUTH COURSE
1710          RS       1    STOR       0       0
1711          SV       0    .617   3.474   9.858  20.063  35.353  52.685  57.749      62
1712          SE    1670    1675    1680    1685    1690    1695    1699    1700    1701
1713          SQ       0       0       0       0       0       0      32     386     594
              *
              *       NO FLOW RELEASED FROM RETENTION BASIN
              *

1714          KK   CLEAR
1715          KM        THIS OPERATION IS ADDED BY GVSCE
1716          KM
1717          KM        CLEAR HYDROGRAPHS FROM THE STACK
1718          HC       2
              *

1719          KK   SUB8S
1720          KM        RUNOFF FROM SUB BASIN 8, SOUTH COURSE
1721          BA   .0256
1722          LS              77      42
1723          UK     100    .010     .15     100
1724          RK    1600    .015    .025            TRAP      50      20
              *

1725          KK   RGC36
1726          KM        ROUTE SUB8S TO CPGC36
1727          RS       1    FLOW
1728          RC    .055    .045    .055     850     .02
1729          RX       0      16      26      30      40      44      54      70
1730          RY       6       2       2       0       0       2       2       6
              *

1731          KK    GC36
1732          KM        RUNOFF FROM SOUTH COURSE HOLES 3, 6, AND NORTH HALF OF HOLE 4.
1733          BA   .0406
1734          LS              81       0
1735          UK     200    .025     .15     100
1736          RK    2350    .015    .035            TRAP      10       4
              *
1                                          HEC-1 INPUT                                                    PAGE 49

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


1737          KK  C1GC36
1738          KM        COMBINE SUBS 8 AND GC36
1739          HC       2
              *

1740          KK   SUB9S
1741          KM        RUNOFF FROM SUB BASIN 9, SOUTH COURSE
1742          BA    .021
1743          LS              77      53
1744          UK     100    .010     .15     100
1745          RK    1100    .013    .025            TRAP      50      20
              *

1746          KK     R9S
1747          KM        ROUTE SUB9S TO CPGC36
1748          RS       1    FLOW
1749          RC    .035    .035    .035     500     .02
1750          RX       0       8      12      16      18      22      26      30
1751          RY       6       4       3       2       2       3       4       6
              *

1752          KK  CPGC36
1753          KM        COMBINE SUBS 8 AND 9 SOUTH AND GC36
1754          HC       2
```

```
                *
1755            KK  SRGC36
1756            KM        STORAGE THRU DETENTION BASIN ON GC36
1757            RS      1    STOR       0       0
1758            SV      0    0.85     1.0
1759            SE   1664    1668    1669
1760            SQ      0      20     205
                *

1761            KK   SUB7A
1762            KM        RUNOFF FROM SUB7A, SOUTH COURSE EAST SIDE ADJACENT TO PIMA ROAD
1763            BA  .0092
1764            LS             77      42
1765            UK    100    .025     .15     100
1766            RK    950    .015    .025            TRAP      50      20
                *

1767            KK    SR7A
1768            KM        STORAGE THRU DETENTION BASIN ON SUB7A
1769            RS      1    STOR       0       0
1770            SV      0     .68      .8
1771            SE   1700    1703    1704
1772            SQ      0      10     150
                *
1                                          HEC-1 INPUT                                          PAGE 50

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

1773            KK    R10S
1774            KM        ROUTE FLOW FROM CP7A TO CP10S
1775            RS      1    FLOW
1776            RC   .035    .035    .035    1400    .015
1777            RX      0       8      12      16      18      22      26      30
1778            RY      6       4       3       2       2       3       4       6
                *

1779            KK  SUB10S
1780            KM        RUNOFF FROM SUB BASIN 10, SOUTH COURSE
1781            BA  .0248
1782            LS             77      53
1783            UK    100    .010     .15     100
1784            RK   1150    .020    .025            TRAP      50      20
                *

1785            KK   CP10S
1786            KM        COMBINE HYDROGRAPHS AT CP10 SOUTH COURSE
1787            HC      2
                *

1788            KK  SUB11S
1789            KM        RUNOFF FROM SUB11, SOUTH COURSE
1790            BA  .0234
1791            LS             77      68
1792            UK    100    .015    .018     100
1793            RK   1050    .015    .025            TRAP     100      20
                *

1794            KK    R11S
1795            KM        ROUTE 11S IS ADDED BY GVSCE TO ROUTE THE RUNOFF FROM SUB11S TO THE
1796            KM        POWER LINE CHANNEL CROSSING AT HUALAPAI DR ALONG HUALAPAI DR.
1797            KM
1798            KM        ROUTE FLOW FROM SUB11S TO CPC5.
1799            RS      1    FLOW      -1
1800            RC   .035    .035    .035     900    .015
1801            RX      0       8      12      16      18      22      26      30
1802            RY      6       4       3       2       2       3       4       6
                *

1803            KK   C10SA
1804            KM        COMBINE 10SA IS ADDED BY GVSCE
1805            KM
1806            KM        COMBINE ROUTED HYDROGRAPH FROM 11S WITH HYDROGRAPH FROM CP10S
1807            HC      2
                *

1808            KK   R10SA
1809            KM        ROUTE 10SA IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1810            KM        FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1811            KM
1812            KM        ROUTE FLOW FROM C10SAS TO CPC5.
1813            RS      1    FLOW      -1
1814            RC   .035    .035    .035     900    .015
1                                          HEC-1 INPUT                                          PAGE 51

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

1815            RX      0       8      12      16      18      22      26      30
1816            RY      6       4       3       2       2       3       4       6
                *

1817            KK    GC45
1818            KM        RUNOFF FROM SOUTH COURSE HOLES 4 AND 5
1819            BA  .0127
```

```
1820          LS              81       0
1821          UK     200    .015    .025     100
1822          RK     550    .015    .035            TRAP      10       4
              *

1823          KK   CGC45
1824          KM        COMBINE CGC45 IS ADDED BY GVSCE
1825          KM
1826          KM        COMBINE ROUTED HYDROGRAPH FROM 10SA WITH RUNOFF FROM GC45
1827          HC       2
              *

1828          KK     PC5
1829          KM        PC5 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1830          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1831          KM
1832          KM        RUNOFF FROM SUBBASIN PC5.
1833          BA  0.0375
1834          LS              77       0
1835          UK     300    .015     .15     100
1836          RK    1900     .01     .03            TRAP      30       4
              *

1837          KK   DPC4A
1838          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1839          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1840          KM
1841          KM        RETRIEVE DIVERTED FLOW
1842          DR  BPC4AT
              *

1843          KK    CPC5
1844          KM        COMBINE PC5 IS ADDED BY GVSCE TO ESTIMATE THE TOTAL FLOW IN THE POWER
1845          KM        LINE CHANNEL AT THE HUALAPAI CROSSING.  THE COMBINED AREA DOES NOT
1846          KM        INCLUDE 0.2236 SQUARE MILES OF AREA DRAINING TO RETENTION BASINS.
1847          KM
1848          KM        COMBINE ROUTED HYDROGRAPH FROM C10SA AND CPC4A WITH HYDROGRAPHS FROM
1849          KM        CGC45, SRGC36 AND PC5
1850          HC       5  3.0039
              *
              *     *******************  END GRAYHAWK WATERSHED  ********************
              *
```



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

1851          KK     RC5
1852          KM       ROUTE CPC5 THROUGH SUBBASIN CN5C TO PIMA FREEWAY EAST-BASIN
1853          RS       1    FLOW      -1
1854          RC    .035    .035    .035    2000    .013
1855          RX       0      16      26      34      64      78      88     106
1856          RY       6       2       2       0       0       2       2       6
              *

1857          KK   SCN5D
1858          KM     RUNOFF FROM SUBBASIN CN5D
1859          BA  0.0499
1860          LS              74       0
1861          UK     100   0.025    0.13     100
1862          RK    3100   0.017    0.04            TRAP       0      15
              *

1863          KK    CN5D
1864          KM        COMBINE ROUTED HYDROGRAPH FROM CPC5 W/RUNOFF FROM SCN5D
1865          HC       2
              *

1866          KK     D52
1867          KM     BRING BACK DIVERTED HYDROGRAPH FROM R52
1868          DR    B52T
              *

1869          KK    S53A
1870          KM     RUNOFF FROM SUBBASIN 53A
1871          BA  0.1794
1872          LS              74      11
1873          UK     300   0.022    0.13     100
1874          RK    1475   0.026   0.045  0.0111    TRAP       3       5
1875          RK    1750   0.021    0.04            TRAP      25       5
              *

1876          KK     C53
1877          KM     COMBINE ROUTED HYDROGRAPH FROM FROM C52 WITH RUNOFF FROM SUBBASIN 53A
1878          HC       2  3.0819
              *
              *    R53
              *   ****  TOO SHORT TO ROUTE  ****
              *

1879          KK   S53A1
1880          KM     RUNOFF FROM SUBBASIN 53A1
1881          BA  0.3376
1882          LS              74      12              74      30
1883          UK     300   0.022    0.13      70
```

```
1884          UK     150   0.027    0.13      30
1885          RK    1250   0.023   0.045  0.0087    TRAP       4       5
1886          RK    5050   0.017    0.04            TRAP      35       5
              *
1                                          HEC-1 INPUT                                                    PAGE 53

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

1887          KK    C53A
1888          KM     COMBINE ROUTED HYDROGRAPH FROM C53 WITH RUNOFF FROM SUBBASSIN 53A1
1889          HC       2
              *

1890          KK   SCN6B
1891          KM     RUNOFF FROM SUBBASIN CN6B (WATER CAMPUS)
1892          KM      TOTAL AREA = 0.0542 sm, 0.0022 sm OF THAT IS NON-CONTRIBUTING
1893          BA  0.0520
1894          LS              74      80              74       0
1895          UK     150    0.01    0.15      70
1896          UK     100   0.025    0.13      30
1897          RK     720    0.02    0.03  0.0084    TRAP       5      10
1898          RK     700    0.01   0.045  0.0050    TRAP       0      10
1899          RK     440   0.009   0.035            TRAP       6       3
              *

1900          KK   SCN6D
1901          KM     RUNOFF FROM SUBBASIN CN6D
1902          KM      TOTAL AREA = 0.0398 sm, 0.0029 sm OF THAT IS NON-CONTRIBUTING
1903          BA  0.0369
1904          LS              74       3
1905          UK     100   0.025    0.13     100
1906          RK    1000   0.017    0.04            TRAP       0      15
              *

1907          KK    CP6D
1908          KM     COMBINE HYDROGRAPHS FROM C53A W/RUNOFF FROM SCN6D
1909          HC       3
              *

1910          KK   SCN6C
1911          KM     RUNOFF FROM SUBBASIN CN6C (CAP TREATMENT PLANT AND WATER CAMPUS)
1912          KM      TOTAL AREA = 0.1526 sm, 0.0138 sm OF THAT IS NON-CONTRIBUTING
1913          BA  0.1388
1914          LS              74      80              74       0
1915          UK     150    0.01    0.15      50
1916          UK     100   0.025    0.13      50
1917          RK    1500    0.01    0.03  0.0123    TRAP       5      10
1918          RK     700   0.017    0.04            TRAP       0      15
              *

1919          KK    CP6C
1920          KM        COMBINE HYDROGRAPH FROM CP6D W/RUNOFF FROM SCN6C
1921          HC       2
              *

1922          KK    CP5D
1923          KM        COMBINE HYDROGRAPHS FROM CP6C AND CP5D
1924          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 54

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

1925          KK   SCN5C
1926          KM     RUNOFF FROM SUBBASIN CN5C
1927          BA  0.1904
1928          LS              74       0
1929          UK     150   0.020    0.13     100
1930          RK    3700  0.0176    0.04            TRAP       0      15
              *

1931          KK   SCN6E
1932          KM     RUNOFF FROM SUBBASIN CN6E
1933          BA  0.0427
1934          LS              74       5
1935          UK      50    0.01    0.13     100
1936          RK    3200   0.002   0.025            TRAP       0      50
              *

1937          KK  EAST-I
1938          KM     COMBINE HYDROGRAPH FROM CP5D WITH W/RUNOFF FROM SCN5C AND SCN6E
1939          HC       3
              *

1940          KK  EAST-O
1941          KM     PIMA FREEWAY BASIN EAST LOCATED NORTH AND EAST OF HAYDEN ROAD T.I.
1942          KM     (2) 96" OUTLET CONDUIT
1943          KM        STAGE-DISCHARGE RATING CURVE REFLECTS 50% CLOGGING OF THE TRASHRACK.
1944          KM        9 ACRE-FEET OF STORAGE FOR SEDIMENTAION
1945          KM
1946          RS       1    STOR      -1       0
1947          SV       0    0.35    1.11    3.38   12.19   24.00   36.81   43.59   50.74   58.38
1948          SV   66.49   74.88   83.50   92.36  101.45  110.78  120.36  130.25  140.48  145.06
```

```
1949          SQ       0     66    127    281    515    791   1047   1161   1263   1355
1950          SQ    1442   1522   1598   1671   1740   1805   1871   1932   1991   2020
1951          SQ  1589.9   1591   1592   1594   1596   1598   1600   1601   1602   1603
1952          SE    1604   1605   1606   1607   1608   1609   1610   1611   1612 1612.5
              *
1953          ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    31       S51.1
                V
                V
    40      DVDB-O
                .
                .
    55          .-------> B51.1T
    53      D51.1T
                .
                .
    58          .       52D4
                .          V
                .          V
    64          .      52D4R
                .          .
                .          .
    67          .          .      52D4B
                .          .          .
                .          .          .
    73          .     52D5C1............
                .          .
                .          .
    76          .          .      52D5A
                .          .          V
                .          .          V
    82          .          .     52D5AR
                .          .          .
                .          .          .
    85          .     52D5C2............
                .          V
                .          V
    88          .      52D5R
                .          .
                .          .
    91          .          .       52C3
                .          .          V
                .          .          V
    97          .          .      52C3R
                .          .          .
                .          .          .
   100          .          .          .      52C3B
                .          .          .          .
                .          .          .          .
   106          .          .     2C3BC1............
                .          .          .
                .          .          .
   109          .     2C3BC2............
                .          V
                .          V
   112          .     52C3BR
                .          .
                .          .
   115          .          .         51C
                .          .          .
                .          .          .
   125          .          .          .-------> 51C1DV
   123          .          .      51C1D
                .          .          V
                .          .          V
   128          .          .      51C1R
                .          .          .
                .          .          .
   131          .          .          .       52C1
                .          .          .          .
                .          .          .          .
   137          .          .      52C1C............
                .          .          V
                .          .          V
   140          .          .      52C1R
                .          .          .
                .          .          .
   143          .          .          .      52C2A
                .          .          .          .
                .          .          .          .
   149          .          .     52C2AC............
                .          .          .
                .          .          .
   152          .          .          .      52C2B
                .          .          .          .
                .          .          .          .
   158          .          .     52C2BC............
                .          .          V
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                 .          .          V
161              .          .     52C2BR
                 .          .          .
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164              .          .          .       52C2C
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170              .          .     52C2CC...........
                 .          .          V
                 .          .          V
173              .          .      52C2R
                 .          .          .
                 .          .          .
176              .          .          .        52C4
                 .          .          .           .
                 .          .          .           .
182              .          .     52C4C1...........
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                 .          .          .
185              .     52C4C2...........
                 .          V
                 .          V
188              .      52C4R
                 .          .
                 .          .
191              .          .      52C13
                 .          .          .
                 .          .          .
199              .          .          .-------> STORM
197              .          .     2C13DV
                 .          .          .
                 .          .          .
202              .          .          .       52C15
                 .          .          .           .
                 .          .          .           .
208              .          .     2C15C1...........
                 .          .          .
                 .          .          .
211              .     2C15C2...........
                 .          V
                 .          V
214              .     52C15R
                 .          .
                 .          .
217              .          .     52C14A
                 .          .          .
                 .          .          .
223              .     2C14AC...........
                 .          V
                 .          V
226              .     2C14AR
                 .          .
                 .          .
231              .          .          .<------- 51C1DV
229              .          .     51C1DV
                 .          .          .
                 .          .          .
234              .          .          .-------> 51C2DV
232              .          .      51C2D
                 .          .          V
                 .          .          V
237              .          .      51C2R
                 .          .          .
                 .          .          .
240              .          .          .        52C5
                 .          .          .           .
                 .          .          .           .
246              .          .      52C5C...........
                 .          .          V
                 .          .          V
249              .          .      52C5R
                 .          .          .
                 .          .          .
252              .          .          .        52C6
                 .          .          .           .
                 .          .          .           .
258              .          .      52C6C...........
                 .          .          V
                 .          .          V
261              .          .      52C6R
                 .          .          .
                 .          .          .
266              .          .          .          .<------- 51C2DV
264              .          .          .     51C2DV
                 .          .          .          V
                 .          .          .          V
267              .          .          .      51C3R
                 .          .          .          .
                 .          .          .          .
270              .          .          .          .        51B
                 .          .          .          .          .
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280              .          .          .          .          .-------> 51B1DV
278              .          .          .          .      51B1D
                 .          .          .          .          V
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                 .         .         .         .         V
283              .         .         .         .    51B1R
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286              .         .         .         .         .        52C7
                 .         .         .         .         .         .
                 .         .         .         .         .         .
292              .         .         .    52C7C.......................
                 .         .         .         V
                 .         .         .         V
295              .         .         .    52C7R
                 .         .         .         .
                 .         .         .         .
300              .         .         .         .         .<-------  51B1DV
298              .         .         .         .    51B1DV
                 .         .         .         .         .
                 .         .         .         .         .
303              .         .         .         .         .-------> 51B2DV
301              .         .         .         .    51B2D
                 .         .         .         .         V
                 .         .         .         .         V
306              .         .         .         .    51B2R
                 .         .         .         .         .
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309              .         .         .         .         .        52C8
                 .         .         .         .         .         .
                 .         .         .         .         .         .
315              .         .         .         .    52C8C............
                 .         .         .         .         V
                 .         .         .         .         V
318              .         .         .         .    52C8R
                 .         .         .         .         .
                 .         .         .         .         .
321              .         .         .    52C9C1............
                 .         .         .         V
                 .         .         .         V
324              .         .         .    52C9R1
                 .         .         .         .
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327              .         .         .         .      52C9
                 .         .         .         .         .
                 .         .         .         .         .
333              .         .         .    52C9C2............
                 .         .         .         V
                 .         .         .         V
336              .         .         .    52C9R2
                 .         .         .         .
                 .         .         .         .
339              .         .    2C10C1............
                 .         .         V
                 .         .         V
342              .         .    2C10R1
                 .         .         .
                 .         .         .
345              .         .         .    52C10
                 .         .         .         .
                 .         .         .         .
351              .         .    2C10C2............
                 .         .         .
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354              .         .         .    52C11
                 .         .         .         V
                 .         .         .         V
360              .         .         .    2C11R1
                 .         .         .         .
                 .         .         .         .
365              .         .         .         .         .<-------  STORM
363              .         .         .         .    52C13D
                 .         .         .         .         .
                 .         .         .         .         .
366              .         .         .    52C11C............
                 .         .         .         V
                 .         .         .         V
369              .         .         .    2C11CR
                 .         .         .         .
                 .         .         .         .
372              .         .    2C11C2............
                 .         .         V
                 .         .         V
375              .         .    2C11R2
                 .         .         .
                 .         .         .
378              .         .         .    52C12
                 .         .         .         .
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384              .         .    52C12C............
                 .         .         V
                 .         .         V
387              .         .    52C12R
                 .         .         .
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390              .         .         .    52C14B
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396              .         .    C14BC1............
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399             .     C14BC2............
                .          V
                .          V
402             .     52C14R
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407             .          .          .<-------  51B2DV
405             .          .     51B2DV
                .          .          .
                .          .          .
410             .          .          .-------> 51B3DV
408             .          .      51B3D
                .          .          V
                .          .          V
413             .          .      51B3R
                .          .          .
                .          .          .
416             .          .          .       52B1
                .          .          .          .
                .          .          .          .
422             .          .      52B1C............
                .          .          V
                .          .          V
425             .          .      52B1R
                .          .          .
                .          .          .
430             .          .          .          .<-------  51B3DV
428             .          .          .     51B3DV
                .          .          .          .
                .          .          .          .
433             .          .          .          .-------> 51B4DV
431             .          .          .      51B4D
                .          .          .          V
                .          .          .          V
436             .          .          .     51B4R1
                .          .          .          .
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439             .          .     52B2C1............
                .          .          V
                .          .          V
442             .          .     52B2R1
                .          .          .
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445             .          .          .       52B2
                .          .          .          .
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451             .          .     52B2C2............
                .          .          V
                .          .          V
454             .          .     52B2R2
                .          .          V
                .          .          V
457             .          .     52B3R1
                .          .          .
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460             .          .          .       52B3
                .          .          .          .
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466             .          .     52B3C2............
                .          .          V
                .          .          V
469             .          .     52B3R2
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                .          .          .
472             .          .          .       52B4
                .          .          .          .
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478             .          .      52B4C............
                .          .          V
                .          .          V
481             .          .      52B4R
                .          .          .
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484             .          .          .       52B5
                .          .          .          .
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490             .          .     52B5C1............
                .          .          .
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493             .     52B5C2............
                .          V
                .          V
496             .      52B5R
                .          .
                .          .
501             .          .          .<-------  51B4DV
499             .          .     51B4DV
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                .          .          .
504             .          .          .-------> 51B5DV
502             .          .      51B5D
                .          .          V
                .          .          V
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507          .           .       51B5R
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             .           .           .
512          .           .           .          .<-------  51B5DV
510          .           .           .     51B5DV
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             .           .           .          .
515          .           .           .          .------->  51B6DV
513          .           .           .      51B6D
             .           .           .         V
             .           .           .         V
518          .           .           .      51B6R
             .           .           .          .
             .           .           .          .
523          .           .           .          .           .<-------  51B6DV
521          .           .           .          .      51B6DV
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526          .           .           .          .           .------->  51B7DV
524          .           .           .          .       51B7D
             .           .           .          .           V
             .           .           .          .           V
529          .           .           .          .      51B7R1
             .           .           .          .           .
             .           .           .          .           .
532          .           .       51B7C.......................
             .           .           V
             .           .           V
535          .           .      51B7R2
             .           .           .
             .           .           .
538          .           .           .       52B6
             .           .           .          .
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544          .           .       52B6C............
             .           .           V
             .           .           V
547          .           .       52B6R
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550          .           .           .       52B7
             .           .           .          .
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556          .           .      52B7C1............
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559          .      52B7C2............
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562          .           .        52A2
             .           .           .
             .           .           .
568          .      52A2C2............
             .           .
             .           .
573          .           .           .<-------  51B7DV
571          .           .      51B7DV
             .           .           V
             .           .           V
574          .           .       51B8R
             .           .           .
             .           .           .
577          .           .           .       52A1
             .           .           .          .
             .           .           .          .
583          .           .       52A1C............
             .           .           .
             .           .           .
588          .           .           .          .<-------  B51.1T
586          .           .           .      D51.1
             .           .           .          .
             .           .           .          .
589          .           .        C52A............
             .           .           .
             .           .           .
593          .         C52............
             .           V
             .           V
597          .         R52
             .           .
             .           .
604          .           .------->    B52T
602          .        D52T
             .           .
             .           .
607       CLEAR............
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610          .          1B
             .           V
             .           V
617          .       37AE1
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624          .           .       SUB5N
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631             .      CP5N............
                .         V
                .         V
634             .      RET5N
                .         V
                .         V
641             .      R6N.1
                .          .
                .          .
649             .          .      SUB6B
                .          .          V
                .          .          V
655             .          .       SR6B
                .          .          .
                .          .          .
661             .      CP6.1............
                .          .
                .          .
664             .          .      SUB1N
                .          .          V
                .          .          V
670             .          .       R2NA
                .          .          .
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676             .          .          .      SUB2NA
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682             .          .      CP2NA............
                .          .          V
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685             .          .      SR2NA
                .          .          V
                .          .          V
691             .          .       R2NB
                .          .          .
                .          .          .
697             .          .          .      SUB2NB
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703             .          .      CP2NB............
                .          .          V
                .          .          V
706             .          .      SR2NB
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                .          .          V
712             .          .      RCP4N
                .          .          .
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718             .          .          .       SUB6N
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724             .          .          .       RET6N
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730             .          .          .      RCP4N1
                .          .          .          .
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736             .          .     CP4N.1............
                .          .          .
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739             .          .          .       SUB3N
                .          .          .          V
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745             .          .          .       RET3N
                .          .          .          V
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752             .          .          .        R4N
                .          .          .          .
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758             .          .     CP4N.2............
                .          .          .
                .          .          .
761             .          .          .       SUB4N
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767             .          .       CP4N............
                .          .          V
                .          .          V
770             .          .        R6N
                .          .          .
                .          .          .
776             .          .          .       SUB6A
                .          .          .          .
                .          .          .          .
782             .          .      CP6.2............
                .          .          .
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785             .      CP6N............
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                .         V
788             .      RCP6N
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794          .           .       SUB3C
             .           .           .
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800          .        CP3C............
             .           V
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803          .         R3C
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811          .           .      GC1018
             .           .           .
             .           .           .
817          .           .           .       GC1-9
             .           .           .           .
             .           .           .           .
823          .           .           .           .       SUB3S
             .           .           .           .           .
             .           .           .           .           .
829          .        CP3S...................................
             .           V
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832          .        RT3S
             .           .
             .           .
838          .           .       SUB4S
             .           .           V
             .           .           V
844          .           .        RT4S
             .           .           .
             .           .           .
850          .           .           .       GC2-8
             .           .           .           .
             .           .           .           .
856          .      1PGC28........................
             .           .
             .           .           .
859          .           .      SUB3D3
             .           .           .
             .           .           .
865          .      CPGC28............
             .           V
             .           V
868          .      SRGC28
             .           V
             .           V
874          .        RT7S
             .           .
             .           .
880          .           .         GC7
             .           .           .
             .           .           .
886          .        CP7S............
             .           .
             .           .
894          .           .------->    B7ST
889          .        D7ST
             .           .
             .           .
897       CLEAR............
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             .
900          .      SUB3D1
             .           V
             .           V
905          .       RD1B1
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             .           .
911          .           .      SUB3B1
             .           .           .
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916          .       CP3B1............
             .           V
             .           V
919          .       RB13F
             .           .
             .           .
925          .           .       SUB3F
             .           .           .
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931          .        CP3F............
             .           .
             .           .
934          .           .      SUB3B2
             .           .           V
             .           .           V
939          .           .       RB2E1
             .           .           V
             .           .           V
945          .           .       RB2E2
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951          .           .           .      SUB3E1
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956          .           .      1CPE31............
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 959            .          .          .     SUB3D2
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 964            .          .          .      RD2E2
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 970            .          .          .          .      SUB3E2
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 975            .          .          .      CP3E2............
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 978            .          .          .          .         PC3
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                .          .          .          .          .
 987            .       CPC3...................................
                .          .
                .          .
 999            .          .-------->  BPC3T
 994            .      DPC3T
                .          .
                .          .
1002            .          .     SUB3E3
                .          .          .
                .          .          .
1007            .          .          .         PC4
                .          .          .          .
                .          .          .          .
1021            .          .          .          .          .<-------    B7ST
1016            .          .          .          .         D7S
                .          .          .          .          .
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1022            .          .       CPC4........................
                .          .          .
                .          .          .
1033            .          .          .-------->  BPC4T
1028            .          .      DPC4T
                .          .          .
                .          .          .
1036       CLEAR........................
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1039            .        1A1
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1046            .       R1A1
                .          .
                .          .
1052            .          .        1A2
                .          .          .
                .          .          .
1059            .        C1A............
                .          V
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1062            .       R14R
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1069            .      RET141
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                .          V
1076            .      R14.1
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1083            .          .     SUB13N
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1089            .          .      R14.1
                .          .          .
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1095            .          .          .     SUB14N
                .          .          .          .
                .          .          .          .
1101            .       CP14........................
                .          V
                .          V
1104            .      RET14
                .          V
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1111            .      R18.1
                .          .
                .          .
1117            .          .     SUB20N
                .          .          V
                .          .          V
1123            .          .       R19
                .          .          .
                .          .          .
1129            .          .          .     SUB19N
                .          .          .          .
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1135            .          .      CP19N............
                .          .          V
                .          .          V
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1138          .           .      R18NC
              .           .          .
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1144          .           .          .     UB18NC
              .           .          .          .
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1150          .     CP18NC.......................
              .          V
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1153          .       RPC1
              .          .
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1159          .           .     UB18NA
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1165          .           .      1RPC1
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1171          .           .          .     UB18NB
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1177          .           .          .      2RPC1
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1183          .           .          .          .         PC1
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1189          .           .      1CPC1........................
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1192          .           .      SRPC1
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1198          .       CPC1............
              .          V
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1201          .     R16NA1
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1207          .           .     UB16NA
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1213          .           .     R16NA1
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1219          .     C16NA1............
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1222          .     R16NB1
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1228          .           .     UB16NB
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1234          .           .     R16NB1
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1240          .     C16NB1............
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1243          .     R16NC1
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1249          .           .      SUB7N
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1255          .           .       R8NC
              .           .          .
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1261          .           .          .     SUB8NA
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1267          .           .          .      SR8NA
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              .           .          .          V
1273          .           .          .       R8NB
              .           .          .          .
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1279          .           .          .          .      SUB8NB
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1285          .           .          .      CP8NB............
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1288          .           .          .      SR8NB
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1294          .           .          .       R8NC
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1300          .           .          .          .      SUB8NC
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1306          .           .      CP8NC........................
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1309             .         .      SR8NC
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1315             .         .       R9N
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                 .         .         .
1321             .         .         .      SUB9N
                 .         .         .         .
                 .         .         .         .
1327             .         .      CP9N............
                 .         .         V
                 .         .         V
1330             .         .       R10B
                 .         .         .
                 .         .         .
1336             .         .         .     SUB10B
                 .         .         .         .
                 .         .         .         .
1343             .         .     CP10B............
                 .         .         V
                 .         .         V
1346             .         .     R11NA
                 .         .         .
                 .         .         .
1352             .         .         .     UB11NA
                 .         .         .         .
                 .         .         .         .
1358             .         .    CP11NA............
                 .         .         V
                 .         .         V
1361             .         .    SR11NA
                 .         .         V
                 .         .         V
1367             .         .     R11NB
                 .         .         .
                 .         .         .
1373             .         .         .     UB11NB
                 .         .         .         .
                 .         .         .         .
1379             .         .    CP11NB............
                 .         .         V
                 .         .         V
1382             .         .    SR11NB
                 .         .         V
                 .         .         V
1388             .         .     R11NC
                 .         .         .
                 .         .         .
1394             .         .         .     UB11NC
                 .         .         .         .
                 .         .         .         .
1400             .         .    C11NC1............
                 .         .         .
                 .         .         .
1403             .         .         .     SUB10A
                 .         .         .         V
                 .         .         .         V
1410             .         .         .      R12NB
                 .         .         .         .
                 .         .         .         .
1416             .         .         .         .     UB12NA
                 .         .         .         .         V
                 .         .         .         .         V
1422             .         .         .         .     SR12NA
                 .         .         .         .         V
                 .         .         .         .         V
1428             .         .         .         .      R12NA
                 .         .         .         .         .
                 .         .         .         .         .
1434             .         .         .         .         .     UB12NB
                 .         .         .         .         .         .
                 .         .         .         .         .         .
1440             .         .         .     CP12NB.......................
                 .         .         .         V
                 .         .         .         V
1443             .         .         .     SR12NB
                 .         .         .         V
                 .         .         .         V
1449             .         .         .     R11NC2
                 .         .         .         .
                 .         .         .         .
1455             .         .    CP11NC............
                 .         .         V
                 .         .         V
1458             .         .    SR11NC
                 .         .         V
                 .         .         V
1465             .         .     R16NC
                 .         .         .
                 .         .         .
1471             .         .         .     UB16NC
                 .         .         .         .
                 .         .         .         .
1477             .         .    CP16NC............
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                .          .          V
                .          .          V
1480            .          .     R16NC1
                .          .          .
                .          .          .
1486            .     C16NC1...........
                .          V
                .          V
1489            .      R15N1
                .          .
                .          .
1495            .          .        PC2
                .          .          .
                .          .          .
1501            .     CP15N1...........
                .          V
                .          V
1504            .      SRPC2
                .          .
                .          .
1511            .          .     UB17NA
                .          .          V
                .          .          V
1517            .          .     SR17NA
                .          .          V
                .          .          V
1523            .          .      R17NB
                .          .          .
                .          .          .
1529            .          .          .     UB17NB
                .          .          .          .
                .          .          .          .
1535            .          .     CP17NB...........
                .          .          V
                .          .          V
1538            .          .     SR17NB
                .          .          V
                .          .          V
1544            .          .       R17A
                .          .          .
                .          .          .
1550            .          .          .     SUB17A
                .          .          .          .
                .          .          .          .
1556            .          .     CP17A1...........
                .          .          .
                .          .          .
1559            .          .          .     UB17NC
                .          .          .          .
                .          .          .          .
1565            .          .      CP17A...........
                .          .          V
                .          .          V
1568            .          .       R15N
                .          .          .
                .          .          .
1574            .          .          .     SUB15N
                .          .          .          .
                .          .          .          .
1581            .          .      CP15N...........
                .          .          V
                .          .          V
1584            .          .      R15N2
                .          .          .
                .          .          .
1590            .     CP15N2...........
                .          V
                .          V
1594            .      R15N2
                .          .
                .          .
1608            .          .          .<-------   BPC3T
1603            .          .       DPC3
                .          .          .
                .          .          .
1609            .      CPC3A...........
                .          V
                .          V
1615            .      RPC3A
                .          .
                .          .
1629            .          .          .<-------   BPC4T
1624            .          .       DPC4
                .          .          .
                .          .          .
1630            .      CPC4A...........
                .          V
                .          V
1636            .      RPC4A
                .          .
                .          .
1650            .          .-------> BPC4AT
1645            .     DPC4AT
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1653          .         .     SUB1-2
              .         .         .
              .         .         .
1659          .         .         .     GCRB18
              .         .         .         .
              .         .         .         .
1666          .         .     CPRET1............
              .         .         V
              .         .         V
1669          .         .      SR18S
              .         .         .
              .         .         .
1675          .         .         .      SUB5S
              .         .         .         .
              .         .         .         .
1681          .         .         .         .     GC1216
              .         .         .         .         .
              .         .         .         .         .
1687          .         .         .         .         .     GC1415
              .         .         .         .         .         .
              .         .         .         .         .         .
1693          .         .         .         .         .         .      SUB6S
              .         .         .         .         .         .         .
              .         .         .         .         .         .         .
1699          .         .         .         .         .         .         .      SUB7S
              .         .         .         .         .         .         .         .
              .         .         .         .         .         .         .         .
1705          .         .         .     CPRET2.......................................
              .         .         .         V
              .         .         .         V
1708          .         .         .     SRRET2
              .         .         .         .
              .         .         .         .
1714          .         .     CLEAR............
              .         .         .
              .         .         .
1719          .         .         .      SUB8S
              .         .         .         V
              .         .         .         V
1725          .         .         .      RGC36
              .         .         .         .
              .         .         .         .
1731          .         .         .         .       GC36
              .         .         .         .         .
              .         .         .         .         .
1737          .         .         .     C1GC36............
              .         .         .         .
              .         .         .         .
1740          .         .         .         .      SUB9S
              .         .         .         .         V
              .         .         .         .         V
1746          .         .         .         .       R9S
              .         .         .         .         .
              .         .         .         .         .
1752          .         .         .     CPGC36............
              .         .         .         V
              .         .         .         V
1755          .         .         .     SRGC36
              .         .         .         .
              .         .         .         .
1761          .         .         .         .      SUB7A
              .         .         .         .         V
              .         .         .         .         V
1767          .         .         .         .      SR7A
              .         .         .         .         V
              .         .         .         .         V
1773          .         .         .         .      R10S
              .         .         .         .         .
              .         .         .         .         .
1779          .         .         .         .         .     SUB10S
              .         .         .         .         .         .
              .         .         .         .         .         .
1785          .         .         .         .      CP10S............
              .         .         .         .         .
              .         .         .         .         .
1788          .         .         .         .         .     SUB11S
              .         .         .         .         .         V
              .         .         .         .         .         V
1794          .         .         .         .         .      R11S
              .         .         .         .         .         .
              .         .         .         .         .         .
1803          .         .         .         .      C10SA............
              .         .         .         .         V
              .         .         .         .         V
1808          .         .         .         .      R10SA
              .         .         .         .         .
              .         .         .         .         .
1817          .         .         .         .         .      GC45
              .         .         .         .         .         .
              .         .         .         .         .         .
1823          .         .         .         .      CGC45............
              .         .         .         .         .
              .         .         .         .         .
1828          .         .         .         .         .       PC5
              .         .         .         .         .         .
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1842                                                                  .<-------  BPC4AT
1837                                                                DPC4A
1843                  CPC5.............................................
                        V
                        V
1851                  RC5
1857                          SCN5D
1863                  CN5D............
1868                                  .<-------    B52T
1866                          D52
1869                                          S53A
1876                          C53............
1879                                          S53A1
1887                          C53A............
1890                                          SCN6B
1900                                                        SCN6D
1907                          CP6D........................
1910                                          SCN6C
1919                          CP6C............
1922                  CP5D............
1925                          SCN5C
1931                                          SCN6E
1937                EAST-I........................
                        V
                        V
1940                EAST-O
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************                    ****************************************
*                                      *                    *                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *   U.S. ARMY CORPS OF ENGINEERS       *
*              MAY   1991              *                    *   HYDROLOGIC ENGINEERING CENTER      *
*           VERSION 4.0.1E             *                    *         609 SECOND STREET            *
*     Lahey F77L-EM/32 version 5.01    *                    *      DAVIS, CALIFORNIA 95616         *
*       Dodson & Associates, Inc.      *                    *          (916) 551-1748              *
*  RUN DATE  02/25/99  TIME  08:04:55  *                    *                                      *
****************************************                    ****************************************
```

PIMA ROAD THREE BASINS
by Stantec for the City of Scottsdale
Project: 28900082

File: EX100-6.IH1
Original: 08-07-97 mcg
Revised: 01-20-99 mcg

100-YEAR, 6-HOUR STORM
INTERIM CONDITION:
NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF
FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.

THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
DEI FILE NAME: GH23FAB.H1I
MODEL DATE: 21 MAY 96

THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES

```
                                WOOD/PATEL FILE NAME:  DC0721C.DAT
                                MODEL DATE:            4 JANUARY 96


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

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      3    0  ENDING DATE
                     NDTIME        1155  ENDING TIME
                     ICENT           19  CENTURY MARK

                  COMPUTATION INTERVAL    0.08 HOURS
                       TOTAL TIME BASE   59.92 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

 25 JD          INDEX STORM NO. 1
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        0.01  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 26 JD          INDEX STORM NO. 2
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        0.10  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 27 JD          INDEX STORM NO. 3
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        0.50  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 28 JD          INDEX STORM NO. 4
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        1.00  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 29 JD          INDEX STORM NO. 5
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA        5.00  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN


 30 JD          INDEX STORM NO. 6
                       STRM        0.00  PRECIPITATION DEPTH
                       TRDA       25.00  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


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        *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


        *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
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*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

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*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  2

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*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

WARNING --- ROUTED OUTFLOW (    753.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    779.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    752.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    778.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    775.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    771.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

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*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

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WARNING --- ROUTED OUTFLOW (    993.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    983.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    895.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    992.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (    983.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    895.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    986.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    979.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    891.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    980.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    974.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    888.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    932.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    941.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    864.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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WARNING --- ROUTED OUTFLOW (   2021.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2032.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2034.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2027.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2020.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2031.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2033.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2026.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2027.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2029.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2023.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2023.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2025.) IS GREATER THAN MAXIMUM OUTFLOW (   2020.) IN STORAGE-OUTFLOW TABLE
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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	S51.1	1058.	3.50	162.	41.	16.	1.13		
+	ROUTED TO	DVDB-O	245.	4.25	162.	41.	16.	1.13		
+	DIVERSION TO	B51.1T	245.	4.25	162.	41.	16.	1.13		
+	HYDROGRAPH AT	D51.1T	0.	0.08	0.	0.	0.	1.13		
+	HYDROGRAPH AT	52D4	116.	3.25	11.	3.	1.	0.07		
+	ROUTED TO	52D4R	106.	3.25	11.	3.	1.	0.07		

+	HYDROGRAPH AT	52D4B	70.	3.17	6.	1.	1.	0.02
+	2 COMBINED AT	52D5C1	161.	3.25	17.	4.	2.	0.09
+	HYDROGRAPH AT	52D5A	79.	3.17	6.	2.	1.	0.02
+	ROUTED TO	52D5AR	75.	3.17	6.	2.	1.	0.02
+	2 COMBINED AT	52D5C2	217.	3.25	23.	6.	2.	0.12
+	ROUTED TO	52D5R	216.	3.25	23.	6.	2.	0.12
+	HYDROGRAPH AT	52C3	24.	3.08	2.	0.	0.	0.01
+	ROUTED TO	52C3R	23.	3.17	2.	0.	0.	0.01
+	HYDROGRAPH AT	52C3B	53.	3.08	4.	1.	0.	0.02
+	2 COMBINED AT	2C3BC1	74.	3.17	6.	1.	1.	0.02
+	2 COMBINED AT	2C3BC2	270.	3.17	29.	7.	3.	0.14
+	ROUTED TO	52C3BR	261.	3.25	29.	7.	3.	0.14
+	HYDROGRAPH AT	51C	114.	3.25	11.	3.	1.	0.10
+	DIVERSION TO	51C1DV	76.	3.25	7.	2.	1.	0.10
+	HYDROGRAPH AT	51C1D	38.	3.25	3.	1.	0.	0.10
+	ROUTED TO	51C1R	34.	3.33	3.	1.	0.	0.10
+	HYDROGRAPH AT	52C1	69.	3.17	5.	1.	0.	0.03
+	2 COMBINED AT	52C1C	81.	3.17	8.	2.	1.	0.06
+	ROUTED TO	52C1R	77.	3.25	8.	2.	1.	0.06
+	HYDROGRAPH AT	52C2A	35.	3.17	2.	1.	0.	0.02
+	2 COMBINED AT	52C2AC	102.	3.25	11.	3.	1.	0.08
+	HYDROGRAPH AT	52C2B	56.	3.17	4.	1.	0.	0.03
+	2 COMBINED AT	52C2BC	154.	3.17	15.	4.	2.	0.11
+	ROUTED TO	52C2BR	148.	3.25	15.	4.	2.	0.11
+	HYDROGRAPH AT	52C2C	46.	3.08	4.	1.	0.	0.01
+	2 COMBINED AT	52C2CC	173.	3.25	19.	5.	2.	0.12
+	ROUTED TO	52C2R	164.	3.25	19.	5.	2.	0.12
+	HYDROGRAPH AT	52C4	56.	3.17	4.	1.	0.	0.02
+	2 COMBINED AT	52C4C1	195.	3.25	23.	6.	2.	0.14
+	2 COMBINED AT	52C4C2	455.	3.25	52.	13.	5.	0.28
+	ROUTED TO	52C4R	447.	3.25	52.	13.	5.	0.28
+	HYDROGRAPH AT	52C13	69.	3.08	5.	1.	0.	0.02

+	DIVERSION TO	STORM	40.	3.08	4.	1.	0.	0.02
+	HYDROGRAPH AT	2C13DV	29.	3.08	1.	0.	0.	0.02
+	HYDROGRAPH AT	52C15	157.	3.08	13.	3.	1.	0.05
+	2 COMBINED AT	2C15C1	186.	3.08	13.	3.	1.	0.05
+	2 COMBINED AT	2C15C2	537.	3.17	65.	16.	7.	0.32
+	ROUTED TO	52C15R	530.	3.25	65.	16.	7.	0.32
+	HYDROGRAPH AT	52C14A	142.	3.17	11.	3.	1.	0.04
+	2 COMBINED AT	2C14AC	648.	3.17	76.	19.	8.	0.36
+	ROUTED TO	2C14AR	630.	3.17	76.	19.	8.	0.36
+	HYDROGRAPH AT	51C1DV	76.	3.25	7.	2.	1.	0.10
+	DIVERSION TO	51C2DV	21.	3.25	2.	0.	0.	0.10
+	HYDROGRAPH AT	51C2D	56.	3.25	5.	1.	1.	0.10
+	ROUTED TO	51C2R	51.	3.25	5.	1.	1.	0.10
+	HYDROGRAPH AT	52C5	40.	3.17	3.	1.	0.	0.02
+	2 COMBINED AT	52C5C	74.	3.25	8.	2.	1.	0.06
+	ROUTED TO	52C5R	73.	3.33	8.	2.	1.	0.06
+	HYDROGRAPH AT	52C6	82.	3.17	7.	2.	1.	0.04
+	2 COMBINED AT	52C6C	127.	3.25	15.	4.	2.	0.10
+	ROUTED TO	52C6R	124.	3.25	15.	4.	2.	0.10
+	HYDROGRAPH AT	51C2DV	21.	3.25	2.	0.	0.	0.10
+	ROUTED TO	51C3R	19.	3.25	2.	0.	0.	0.10
+	HYDROGRAPH AT	51B	441.	3.42	61.	15.	6.	0.57
+	DIVERSION TO	51B1DV	406.	3.42	57.	14.	6.	0.57
+	HYDROGRAPH AT	51B1D	35.	3.42	5.	1.	0.	0.57
+	ROUTED TO	51B1R	35.	3.42	5.	1.	0.	0.57
+	HYDROGRAPH AT	52C7	18.	3.08	1.	0.	0.	0.01
+	3 COMBINED AT	52C7C	53.	3.33	8.	2.	1.	0.07
+	ROUTED TO	52C7R	52.	3.42	8.	2.	1.	0.07
+	HYDROGRAPH AT	51B1DV	406.	3.42	57.	14.	6.	0.57
+	DIVERSION TO	51B2DV	341.	3.42	47.	12.	5.	0.57
+	HYDROGRAPH AT	51B2D	65.	3.42	9.	2.	1.	0.57
	ROUTED TO							

+		51B2R	63.	3.42	9.	2.	1.	0.57
+	HYDROGRAPH AT	52C8	21.	3.08	1.	0.	0.	0.01
+	2 COMBINED AT	52C8C	68.	3.42	11.	3.	1.	0.45
+	ROUTED TO	52C8R	67.	3.50	11.	3.	1.	0.45
+	2 COMBINED AT	52C9C1	117.	3.42	18.	5.	2.	0.52
+	ROUTED TO	52C9R1	116.	3.50	18.	5.	2.	0.52
+	HYDROGRAPH AT	52C9	174.	3.17	14.	3.	1.	0.07
+	2 COMBINED AT	52C9C2	215.	3.17	32.	8.	3.	0.59
+	ROUTED TO	52C9R2	206.	3.25	32.	8.	3.	0.59
+	2 COMBINED AT	2C10C1	328.	3.25	47.	12.	5.	0.69
+	ROUTED TO	2C10R1	326.	3.25	47.	12.	5.	0.69
+	HYDROGRAPH AT	52C10	28.	3.17	2.	1.	0.	0.01
+	2 COMBINED AT	2C10C2	341.	3.25	49.	12.	5.	0.70
+	HYDROGRAPH AT	52C11	96.	3.17	8.	2.	1.	0.04
+	ROUTED TO	2C11R1	88.	3.17	8.	2.	1.	0.04
+	HYDROGRAPH AT	52C13D	40.	3.08	4.	1.	0.	0.02
+	2 COMBINED AT	52C11C	128.	3.17	12.	3.	1.	0.07
+	ROUTED TO	2C11CR	120.	3.17	12.	3.	1.	0.07
+	2 COMBINED AT	2C11C2	455.	3.25	61.	15.	6.	0.77
+	ROUTED TO	2C11R2	450.	3.25	61.	15.	6.	0.77
+	HYDROGRAPH AT	52C12	119.	3.08	7.	2.	1.	0.02
+	2 COMBINED AT	52C12C	487.	3.25	68.	17.	7.	0.79
+	ROUTED TO	52C12R	480.	3.25	68.	17.	7.	0.79
+	HYDROGRAPH AT	52C14B	76.	3.08	6.	1.	1.	0.02
+	2 COMBINED AT	C14BC1	515.	3.25	74.	19.	7.	0.81
+	2 COMBINED AT	C14BC2	1118.	3.25	150.	38.	15.	1.17
+	ROUTED TO	52C14R	1117.	3.25	150.	38.	15.	1.17
+	HYDROGRAPH AT	51B2DV	341.	3.42	47.	12.	5.	0.57
+	DIVERSION TO	51B3DV	286.	3.42	40.	10.	4.	0.57
+	HYDROGRAPH AT	51B3D	55.	3.42	8.	2.	1.	0.57
+	ROUTED TO	51B3R	53.	3.42	8.	2.	1.	0.57
+	HYDROGRAPH AT	52B1	8.	3.08	1.	0.	0.	0.00

+	2 COMBINED AT	52B1C	55.	3.42	8.	2.	1.	0.07
+	ROUTED TO	52B1R	54.	3.50	8.	2.	1.	0.07
+	HYDROGRAPH AT	51B3DV	286.	3.42	40.	10.	4.	0.57
+	DIVERSION TO	51B4DV	235.	3.42	33.	8.	3.	0.57
+	HYDROGRAPH AT	51B4D	52.	3.42	7.	2.	1.	0.57
+	ROUTED TO	51B4R1	50.	3.50	7.	2.	1.	0.57
+	2 COMBINED AT	52B2C1	104.	3.50	15.	4.	2.	0.14
+	ROUTED TO	52B2R1	103.	3.50	15.	4.	2.	0.14
+	HYDROGRAPH AT	52B2	69.	3.17	5.	1.	1.	0.03
+	2 COMBINED AT	52B2C2	121.	3.50	21.	5.	2.	0.17
+	ROUTED TO	52B2R2	121.	3.50	21.	5.	2.	0.17
+	ROUTED TO	52B3R1	120.	3.50	21.	5.	2.	0.17
+	HYDROGRAPH AT	52B3	141.	3.17	12.	3.	1.	0.06
+	2 COMBINED AT	52B3C2	211.	3.25	33.	8.	3.	0.23
+	ROUTED TO	52B3R2	205.	3.25	33.	8.	3.	0.23
+	HYDROGRAPH AT	52B4	87.	3.17	7.	2.	1.	0.03
+	2 COMBINED AT	52B4C	255.	3.25	39.	10.	4.	0.26
+	ROUTED TO	52B4R	250.	3.25	39.	10.	4.	0.26
+	HYDROGRAPH AT	52B5	69.	3.08	5.	1.	1.	0.02
+	2 COMBINED AT	52B5C1	286.	3.25	45.	11.	5.	0.28
+	2 COMBINED AT	52B5C2	1393.	3.25	194.	49.	20.	1.45
+	ROUTED TO	52B5R	1381.	3.25	194.	49.	20.	1.45
+	HYDROGRAPH AT	51B4DV	235.	3.42	33.	8.	3.	0.57
+	DIVERSION TO	51B5DV	160.	3.42	22.	6.	2.	0.57
+	HYDROGRAPH AT	51B5D	75.	3.42	10.	3.	1.	0.57
+	ROUTED TO	51B5R	73.	3.50	10.	3.	1.	0.57
+	HYDROGRAPH AT	51B5DV	160.	3.42	22.	6.	2.	0.57
+	DIVERSION TO	51B6DV	85.	3.42	12.	3.	1.	0.57
+	HYDROGRAPH AT	51B6D	75.	3.42	10.	3.	1.	0.57
+	ROUTED TO	51B6R	72.	3.42	10.	3.	1.	0.57
+	HYDROGRAPH AT	51B6DV	85.	3.42	12.	3.	1.	0.57
+	DIVERSION TO	51B7DV	49.	3.42	7.	2.	1.	0.57

+	HYDROGRAPH AT 51B7D	36.	3.42	5.	1.	0.	0.57
+	ROUTED TO 51B7R1	35.	3.42	5.	1.	1.	0.57
+	3 COMBINED AT 51B7C	179.	3.42	26.	7.	3.	0.24
+	ROUTED TO 51B7R2	179.	3.50	26.	7.	3.	0.24
+	HYDROGRAPH AT 52B6	190.	3.17	15.	4.	2.	0.10
+	2 COMBINED AT 52B6C	231.	3.50	41.	10.	4.	0.34
+	ROUTED TO 52B6R	230.	3.50	41.	10.	4.	0.34
+	HYDROGRAPH AT 52B7	303.	3.17	24.	6.	2.	0.08
+	2 COMBINED AT 52B7C1	383.	3.17	64.	16.	7.	0.42
+	2 COMBINED AT 52B7C2	1729.	3.25	257.	65.	26.	1.87
+	HYDROGRAPH AT 52A2	263.	3.17	21.	5.	2.	0.06
+	2 COMBINED AT 52A2C2	1892.	3.25	279.	71.	28.	1.62
+	HYDROGRAPH AT 51B7DV	49.	3.42	7.	2.	1.	0.57
+	ROUTED TO 51B8R	47.	3.58	7.	2.	1.	0.57
+	HYDROGRAPH AT 52A1	340.	3.17	26.	6.	3.	0.13
+	2 COMBINED AT 52A1C	341.	3.17	32.	8.	3.	0.13
+	HYDROGRAPH AT D51.1	245.	4.25	162.	41.	16.	1.13
+	2 COMBINED AT C52A	374.	3.17	192.	49.	20.	1.26
+	2 COMBINED AT C52	2210.	3.17	465.	119.	48.	2.90
+	ROUTED TO R52	2210.	3.25	465.	119.	48.	2.90
+	DIVERSION TO B52T	2210.	3.25	465.	119.	48.	2.90
+	HYDROGRAPH AT D52T	0.	0.08	0.	0.	0.	2.90
+	2 COMBINED AT CLEAR	0.	0.08	0.	0.	0.	4.03
+	HYDROGRAPH AT 1B	431.	3.42	53.	13.	5.	0.36
+	ROUTED TO 37AE1	430.	3.42	53.	13.	5.	0.36
+	HYDROGRAPH AT SUB5N	70.	3.17	5.	1.	1.	0.03
+	2 COMBINED AT CP5N	453.	3.42	58.	15.	6.	0.39
+	ROUTED TO RET5N	423.	3.50	57.	15.	6.	0.39
+	ROUTED TO R6N.1	371.	3.58	57.	15.	6.	0.39
+	HYDROGRAPH AT SUB6B	74.	3.17	5.	1.	1.	0.03
+	ROUTED TO SR6B	43.	3.25	5.	1.	1.	0.03
	2 COMBINED AT						

+		CP6.1	389.	3.58	62.	16.	6.	0.42
+	HYDROGRAPH AT	SUB1N	47.	3.17	3.	1.	0.	0.02
+	ROUTED TO	R2NA	46.	3.17	3.	1.	0.	0.02
+	HYDROGRAPH AT	SUB2NA	34.	3.17	2.	1.	0.	0.01
+	2 COMBINED AT	CP2NA	80.	3.17	6.	1.	1.	0.03
+	ROUTED TO	SR2NA	70.	3.25	4.	1.	0.	0.03
+	ROUTED TO	R2NB	59.	3.33	4.	1.	0.	0.03
+	HYDROGRAPH AT	SUB2NB	96.	3.17	8.	2.	1.	0.03
+	2 COMBINED AT	CP2NB	99.	3.33	12.	3.	1.	0.06
+	ROUTED TO	SR2NB	25.	3.75	11.	3.	1.	0.06
+	ROUTED TO	RCP4N	24.	3.75	11.	3.	1.	0.06
+	HYDROGRAPH AT	SUB6N	114.	3.17	8.	2.	1.	0.05
+	ROUTED TO	RET6N	0.	0.08	0.	0.	0.	0.05
+	ROUTED TO	RCP4N1	0.	0.08	0.	0.	0.	0.05
+	2 COMBINED AT	CP4N.1	24.	3.75	11.	3.	1.	0.11
+	HYDROGRAPH AT	SUB3N	67.	3.17	4.	1.	0.	0.03
+	ROUTED TO	RET3N	4.	4.17	3.	1.	0.	0.03
+	ROUTED TO	R4N	4.	4.25	3.	1.	0.	0.03
+	2 COMBINED AT	CP4N.2	27.	3.75	14.	4.	2.	0.14
+	HYDROGRAPH AT	SUB4N	80.	3.17	6.	1.	1.	0.03
+	2 COMBINED AT	CP4N	89.	3.17	19.	6.	2.	0.17
+	ROUTED TO	R6N	82.	3.17	19.	6.	2.	0.17
+	HYDROGRAPH AT	SUB6A	64.	3.08	4.	1.	0.	0.01
+	2 COMBINED AT	CP6.2	121.	3.17	23.	7.	3.	0.18
+	2 COMBINED AT	CP6N	429.	3.58	84.	23.	9.	0.60
+	ROUTED TO	RCP6N	423.	3.58	84.	23.	9.	0.60
+	HYDROGRAPH AT	SUB3C	55.	3.08	3.	1.	0.	0.01
+	2 COMBINED AT	CP3C	426.	3.58	87.	23.	9.	0.61
+	ROUTED TO	R3C	412.	3.67	87.	23.	9.	0.61
+	HYDROGRAPH AT	GC1018	101.	3.17	7.	2.	1.	0.04
+	HYDROGRAPH AT	GC1-9	58.	3.17	4.	1.	0.	0.03
+	HYDROGRAPH AT	SUB3S	33.	3.17	3.	1.	0.	0.01

+	4 COMBINED AT CP3S	441.	3.67	101.	27.	11.	0.69
+	ROUTED TO RT3S	437.	3.67	101.	27.	11.	0.69
+	HYDROGRAPH AT SUB4S	87.	3.17	7.	2.	1.	0.03
+	ROUTED TO RT4S	87.	3.17	7.	2.	1.	0.03
+	HYDROGRAPH AT GC2-8	32.	3.17	2.	1.	0.	0.01
+	3 COMBINED AT 1PGC28	454.	3.67	109.	29.	12.	0.74
+	HYDROGRAPH AT SUB3D3	35.	3.17	2.	1.	0.	0.01
+	2 COMBINED AT CPGC28	458.	3.67	112.	30.	12.	0.75
+	ROUTED TO SRGC28	448.	3.75	111.	30.	12.	0.75
+	ROUTED TO RT7S	443.	3.75	111.	30.	12.	0.75
+	HYDROGRAPH AT GC7	31.	3.17	2.	1.	0.	0.01
+	2 COMBINED AT CP7S	447.	3.75	113.	30.	12.	0.76
+	DIVERSION TO B7ST	447.	3.75	113.	30.	12.	0.76
+	HYDROGRAPH AT D7ST	0.	0.08	0.	0.	0.	0.76
+	2 COMBINED AT CLEAR	0.	0.08	0.	0.	0.	4.80
+	HYDROGRAPH AT SUB3D1	27.	3.08	2.	0.	0.	0.01
+	ROUTED TO RD1B1	22.	3.17	2.	0.	0.	0.01
+	HYDROGRAPH AT SUB3B1	47.	3.08	3.	1.	0.	0.01
+	2 COMBINED AT CP3B1	61.	3.08	5.	1.	1.	0.02
+	ROUTED TO RB13F	48.	3.25	5.	1.	1.	0.02
+	HYDROGRAPH AT SUB3F	141.	3.08	10.	2.	1.	0.03
+	2 COMBINED AT CP3F	169.	3.08	15.	4.	2.	0.06
+	HYDROGRAPH AT SUB3B2	67.	3.17	6.	1.	1.	0.02
+	ROUTED TO RB2E1	64.	3.17	6.	1.	1.	0.02
+	ROUTED TO RB2E2	61.	3.25	6.	1.	1.	0.02
+	HYDROGRAPH AT SUB3E1	67.	3.17	6.	1.	1.	0.02
+	2 COMBINED AT 1CPE31	125.	3.17	11.	3.	1.	0.05
+	HYDROGRAPH AT SUB3D2	58.	3.17	5.	1.	0.	0.02
+	ROUTED TO RD2E2	56.	3.17	5.	1.	0.	0.02
+	HYDROGRAPH AT SUB3E2	37.	3.08	3.	1.	0.	0.01
+	2 COMBINED AT CP3E2	86.	3.17	7.	2.	1.	0.03
+	HYDROGRAPH AT PC3	59.	3.33	7.	2.	1.	0.04

+	4 COMBINED AT	CPC3	400.	3.17	40.	10.	4.	0.18
+	DIVERSION TO	BPC3T	400.	3.17	40.	10.	4.	0.18
+	HYDROGRAPH AT	DPC3T	0.	0.08	0.	0.	0.	0.18
+	HYDROGRAPH AT	SUB3E3	60.	3.08	4.	1.	0.	0.02
+	HYDROGRAPH AT	PC4	25.	3.33	3.	1.	0.	0.02
+	HYDROGRAPH AT	D7S	447.	3.75	113.	30.	12.	0.76
+	3 COMBINED AT	CPC4	458.	3.75	120.	32.	13.	0.80
+	DIVERSION TO	BPC4T	458.	3.75	120.	32.	13.	0.80
+	HYDROGRAPH AT	DPC4T	0.	0.08	0.	0.	0.	0.80
+	3 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	5.78
+	HYDROGRAPH AT	1A1	419.	3.58	70.	18.	7.	0.75
+	ROUTED TO	R1A1	373.	3.83	69.	18.	7.	0.75
+	HYDROGRAPH AT	1A2	1205.	3.25	109.	28.	11.	0.61
+	2 COMBINED AT	C1A	1196.	3.25	175.	45.	18.	1.36
+	ROUTED TO	R14R	928.	3.33	174.	45.	18.	1.36
+	ROUTED TO	RET141	904.	3.33	167.	45.	18.	1.36
+	ROUTED TO	R14.1	775.	3.50	167.	45.	18.	1.36
+	HYDROGRAPH AT	SUB13N	81.	3.17	7.	2.	1.	0.04
+	ROUTED TO	R14.1	78.	3.25	7.	2.	1.	0.04
+	HYDROGRAPH AT	SUB14N	88.	3.25	8.	2.	1.	0.05
+	3 COMBINED AT	CP14	840.	3.50	181.	49.	20.	1.44
+	ROUTED TO	RET14	765.	3.58	175.	49.	20.	1.44
+	ROUTED TO	R18.1	757.	3.58	175.	49.	20.	1.44
+	HYDROGRAPH AT	SUB20N	47.	3.17	4.	1.	0.	0.02
+	ROUTED TO	R19	48.	3.25	4.	1.	0.	0.02
+	HYDROGRAPH AT	SUB19N	94.	3.17	8.	2.	1.	0.04
+	2 COMBINED AT	CP19N	133.	3.17	12.	3.	1.	0.06
+	ROUTED TO	R18NC	132.	3.25	12.	3.	1.	0.06
+	HYDROGRAPH AT	UB18NC	62.	3.17	5.	1.	0.	0.02
+	3 COMBINED AT	CP18NC	806.	3.58	191.	53.	21.	1.53
+	ROUTED TO	RPC1	821.	3.58	191.	53.	21.	1.53
	HYDROGRAPH AT							

+		UB18NA	65.	3.17	5.	1.	1.	0.02
+	ROUTED TO	1RPC1	31.	3.33	5.	1.	1.	0.02
+	HYDROGRAPH AT	UB18NB	27.	3.17	2.	1.	0.	0.01
+	ROUTED TO	2RPC1	16.	3.25	2.	1.	0.	0.01
+	HYDROGRAPH AT	PC1	66.	3.42	10.	2.	1.	0.06
+	3 COMBINED AT	1CPC1	107.	3.42	17.	4.	2.	0.09
+	ROUTED TO	SRPC1	108.	3.42	16.	4.	2.	0.09
+	2 COMBINED AT	CPC1	904.	3.58	207.	57.	23.	1.62
+	ROUTED TO	R16NA1	923.	3.58	207.	57.	23.	1.62
+	HYDROGRAPH AT	UB16NA	42.	3.17	3.	1.	0.	0.01
+	ROUTED TO	R16NA1	37.	3.17	3.	1.	0.	0.01
+	2 COMBINED AT	C16NA1	931.	3.58	210.	58.	23.	1.63
+	ROUTED TO	R16NB1	931.	3.58	210.	58.	23.	1.63
+	HYDROGRAPH AT	UB16NB	48.	3.17	4.	1.	0.	0.02
+	ROUTED TO	R16NB1	43.	3.17	4.	1.	0.	0.02
+	2 COMBINED AT	C16NB1	939.	3.58	213.	59.	24.	1.65
+	ROUTED TO	R16NC1	911.	3.67	213.	59.	24.	1.65
+	HYDROGRAPH AT	SUB7N	74.	3.17	5.	1.	1.	0.03
+	ROUTED TO	R8NC	64.	3.25	5.	1.	1.	0.03
+	HYDROGRAPH AT	SUB8NA	13.	3.08	1.	0.	0.	0.00
+	ROUTED TO	SR8NA	1.	4.17	0.	0.	0.	0.00
+	ROUTED TO	R8NB	1.	4.17	0.	0.	0.	0.00
+	HYDROGRAPH AT	SUB8NB	34.	3.08	2.	1.	0.	0.01
+	2 COMBINED AT	CP8NB	34.	3.08	3.	1.	0.	0.02
+	ROUTED TO	SR8NB	2.	3.08	2.	1.	0.	0.02
+	ROUTED TO	R8NC	2.	3.08	2.	1.	0.	0.02
+	HYDROGRAPH AT	SUB8NC	51.	3.08	3.	1.	0.	0.02
+	3 COMBINED AT	CP8NC	103.	3.17	10.	3.	1.	0.07
+	ROUTED TO	SR8NC	18.	3.75	10.	3.	1.	0.07
+	ROUTED TO	R9N	17.	3.75	10.	3.	1.	0.07
+	HYDROGRAPH AT	SUB9N	143.	3.17	11.	3.	1.	0.05
+	2 COMBINED AT	CP9N	153.	3.17	21.	6.	2.	0.12

+	ROUTED TO R10B	148.	3.17	21.	6.	2.	0.12
+	HYDROGRAPH AT SUB10B	87.	3.08	6.	2.	1.	0.03
+	2 COMBINED AT CP10B	226.	3.17	27.	7.	3.	0.15
+	ROUTED TO R11NA	229.	3.17	27.	7.	3.	0.15
+	HYDROGRAPH AT UB11NA	21.	3.08	1.	0.	0.	0.01
+	2 COMBINED AT CP11NA	245.	3.17	28.	8.	3.	0.16
+	ROUTED TO SR11NA	145.	3.33	28.	8.	3.	0.16
+	ROUTED TO R11NB	140.	3.33	28.	8.	3.	0.16
+	HYDROGRAPH AT UB11NB	22.	3.08	1.	0.	0.	0.01
+	2 COMBINED AT CP11NB	146.	3.33	29.	8.	3.	0.17
+	ROUTED TO SR11NB	84.	3.50	28.	8.	3.	0.17
+	ROUTED TO R11NC	87.	3.50	28.	8.	3.	0.17
+	HYDROGRAPH AT UB11NC	19.	3.08	1.	0.	0.	0.01
+	2 COMBINED AT C11NC1	90.	3.50	30.	8.	3.	0.17
+	HYDROGRAPH AT SUB10A	88.	3.08	7.	2.	1.	0.03
+	ROUTED TO R12NB	95.	3.17	7.	2.	1.	0.03
+	HYDROGRAPH AT UB12NA	36.	3.17	3.	1.	0.	0.02
+	ROUTED TO SR12NA	1.	6.17	0.	0.	0.	0.02
+	ROUTED TO R12NA	1.	6.17	0.	0.	0.	0.02
+	HYDROGRAPH AT UB12NB	37.	3.17	3.	1.	0.	0.02
+	3 COMBINED AT CP12NB	132.	3.17	10.	3.	1.	0.06
+	ROUTED TO SR12NB	2.	3.17	2.	2.	1.	0.06
+	ROUTED TO R11NC2	2.	3.50	2.	2.	1.	0.06
+	2 COMBINED AT CP11NC	92.	3.50	32.	10.	4.	0.23
+	ROUTED TO SR11NC	71.	3.75	30.	10.	4.	0.23
+	ROUTED TO R16NC	71.	3.75	30.	10.	4.	0.23
+	HYDROGRAPH AT UB16NC	102.	3.17	8.	2.	1.	0.03
+	2 COMBINED AT CP16NC	107.	3.17	36.	12.	5.	0.27
+	ROUTED TO R16NC1	106.	3.17	36.	12.	5.	0.27
+	2 COMBINED AT C16NC1	968.	3.67	249.	70.	29.	1.92
+	ROUTED TO R15N1	986.	3.67	248.	70.	29.	1.92
+	HYDROGRAPH AT PC2	93.	3.25	8.	2.	1.	0.05

+	2 COMBINED AT	CP15N1	1008.	3.67	257.	72.	29.	1.97
+	ROUTED TO	SRPC2	960.	3.75	256.	72.	29.	1.97
+	HYDROGRAPH AT	UB17NA	28.	3.08	2.	0.	0.	0.01
+	ROUTED TO	SR17NA	2.	3.75	1.	0.	0.	0.01
+	ROUTED TO	R17NB	2.	3.75	1.	0.	0.	0.01
+	HYDROGRAPH AT	UB17NB	27.	3.17	2.	0.	0.	0.01
+	2 COMBINED AT	CP17NB	28.	3.17	3.	1.	0.	0.02
+	ROUTED TO	SR17NB	1.	3.00	1.	1.	0.	0.02
+	ROUTED TO	R17A	1.	3.08	1.	1.	0.	0.02
+	HYDROGRAPH AT	SUB17A	30.	3.08	2.	0.	0.	0.01
+	2 COMBINED AT	CP17A1	31.	3.08	3.	1.	1.	0.03
+	HYDROGRAPH AT	UB17NC	19.	3.08	1.	0.	0.	0.01
+	2 COMBINED AT	CP17A	50.	3.08	3.	2.	1.	0.03
+	ROUTED TO	R15N	34.	3.17	3.	2.	1.	0.03
+	HYDROGRAPH AT	SUB15N	142.	3.17	11.	3.	1.	0.04
+	2 COMBINED AT	CP15N	175.	3.17	14.	4.	2.	0.07
+	ROUTED TO	R15N2	179.	3.17	14.	4.	2.	0.07
+	2 COMBINED AT	CP15N2	983.	3.67	269.	76.	31.	2.04
+	ROUTED TO	R15N2	954.	3.75	268.	76.	31.	2.04
+	HYDROGRAPH AT	DPC3	400.	3.17	40.	10.	4.	0.18
+	2 COMBINED AT	CPC3A	1010.	3.75	303.	86.	35.	2.23
+	ROUTED TO	RPC3A	1000.	3.83	303.	86.	35.	2.23
+	HYDROGRAPH AT	DPC4	458.	3.75	120.	32.	13.	0.80
+	2 COMBINED AT	CPC4A	1425.	3.83	420.	117.	48.	3.03
+	ROUTED TO	RPC4A	1415.	3.83	420.	117.	48.	3.03
+	DIVERSION TO	BPC4AT	1415.	3.83	420.	117.	48.	3.03
+	HYDROGRAPH AT	DPC4AT	0.	0.08	0.	0.	0.	3.03
+	HYDROGRAPH AT	SUB1-2	181.	3.17	16.	4.	2.	0.06
+	HYDROGRAPH AT	GCRB18	27.	3.17	2.	1.	0.	0.01
+	2 COMBINED AT	CPRET1	208.	3.17	18.	4.	2.	0.07
+	ROUTED TO	SR18S	0.	0.08	0.	0.	0.	0.07
	HYDROGRAPH AT							

+		SUB5S	72.	3.17	5.	1.	1.	0.03
+	HYDROGRAPH AT	GC1216	83.	3.17	6.	2.	1.	0.04
+	HYDROGRAPH AT	GC1415	104.	3.17	7.	2.	1.	0.05
+	HYDROGRAPH AT	SUB6S	53.	3.17	5.	1.	0.	0.02
+	HYDROGRAPH AT	SUB7S	79.	3.17	6.	2.	1.	0.03
+	5 COMBINED AT	CPRET2	391.	3.17	30.	7.	3.	0.16
+	ROUTED TO	SRRET2	0.	0.08	0.	0.	0.	0.16
+	2 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	0.22
+	HYDROGRAPH AT	SUB8S	76.	3.17	6.	1.	1.	0.03
+	ROUTED TO	RGC36	64.	3.25	6.	1.	1.	0.03
+	HYDROGRAPH AT	GC36	77.	3.17	7.	2.	1.	0.04
+	2 COMBINED AT	C1GC36	141.	3.17	13.	3.	1.	0.07
+	HYDROGRAPH AT	SUB9S	68.	3.17	5.	1.	1.	0.02
+	ROUTED TO	R9S	69.	3.17	5.	1.	1.	0.02
+	2 COMBINED AT	CPGC36	210.	3.17	18.	4.	2.	0.09
+	ROUTED TO	SRGC36	202.	3.25	18.	4.	2.	0.09
+	HYDROGRAPH AT	SUB7A	27.	3.17	2.	1.	0.	0.01
+	ROUTED TO	SR7A	7.	3.42	2.	1.	0.	0.01
+	ROUTED TO	R10S	7.	3.58	2.	1.	0.	0.01
+	HYDROGRAPH AT	SUB10S	78.	3.17	6.	2.	1.	0.02
+	2 COMBINED AT	CP10S	81.	3.17	8.	2.	1.	0.03
+	HYDROGRAPH AT	SUB11S	118.	3.08	7.	2.	1.	0.02
+	ROUTED TO	R11S	88.	3.17	7.	2.	1.	0.02
+	2 COMBINED AT	C10SA	169.	3.17	15.	4.	2.	0.06
+	ROUTED TO	R10SA	173.	3.17	15.	4.	2.	0.06
+	HYDROGRAPH AT	GC45	45.	3.08	2.	1.	0.	0.01
+	2 COMBINED AT	CGC45	196.	3.17	17.	4.	2.	0.07
+	HYDROGRAPH AT	PC5	43.	3.33	5.	1.	1.	0.04
+	HYDROGRAPH AT	DPC4A	1415.	3.83	420.	117.	48.	3.03
+	5 COMBINED AT	CPC5	1475.	3.83	458.	127.	52.	3.00
+	ROUTED TO	RC5	1447.	3.92	457.	127.	52.	3.00
+	HYDROGRAPH AT	SCN5D	64.	3.25	6.	1.	1.	0.05

+	2 COMBINED AT	CN5D	1456.	3.92	463.	129.	52.	3.05
+	HYDROGRAPH AT	D52	2210.	3.25	465.	119.	48.	2.90
+	HYDROGRAPH AT	S53A	247.	3.25	26.	6.	3.	0.18
+	2 COMBINED AT	C53	2442.	3.25	490.	126.	50.	3.08
+	HYDROGRAPH AT	S53A1	456.	3.33	53.	13.	5.	0.34
+	2 COMBINED AT	C53A	2874.	3.33	541.	139.	56.	3.42
+	HYDROGRAPH AT	SCN6B	158.	3.17	13.	3.	1.	0.05
+	HYDROGRAPH AT	SCN6D	68.	3.17	5.	1.	0.	0.04
+	3 COMBINED AT	CP6D	2981.	3.33	558.	143.	57.	3.51
+	HYDROGRAPH AT	SCN6C	347.	3.17	29.	7.	3.	0.14
+	2 COMBINED AT	CP6C	3267.	3.25	586.	150.	60.	3.65
+	2 COMBINED AT	CP5D	4219.	3.33	1025.	275.	111.	6.70
+	HYDROGRAPH AT	SCN5C	240.	3.25	23.	6.	2.	0.19
+	HYDROGRAPH AT	SCN6E	35.	3.58	6.	1.	1.	0.04
+	3 COMBINED AT	EAST-I	4426.	3.33	1050.	281.	113.	6.93
+	ROUTED TO	EAST-O	1962.	4.17	1050.	281.	113.	6.93

1

APPENDIX E

EAST SIDE INTERIM BUILD-OUT AND NO CLOGGING CONDITION
50-YEAR, 24-HOUR
PRINTOUT (I-3)

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              MAY  1991               *
*            VERSION 4.0.1E            *
*     Lahey F77L-EM/32 version 5.01    *
*       Dodson & Associates, Inc.      *
* RUN DATE  02/25/99  TIME  08:19:28   *
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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

1 HEC-1 INPUT PAGE 1

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

  1           ID    PIMA ROAD THREE BASINS                                File:  EX50-24.IH1
  2           ID    by  Stantec for the City of Scottsdale             Original: 08-07-97     mcg
  3           ID        Project:  28900082                              Revised: 01-20-99     mcg
  4           ID
  5           ID
  6           ID    50-YEAR, 24-HOUR STORM
  7           ID        INTERIM CONDITION:
  8           ID           NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
  9           ID           GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
 10           ID           THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
 11           ID           THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF
 12           ID           FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.
 13           ID
 14           ID        THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
 15           ID            DEI FILE NAME:  GH23FAB.H1I
 16           ID            MODEL DATE:     21 MAY 96
 17           ID
 18           ID        THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
 19           ID            WOOD/PATEL FILE NAME:  DC0721C.DAT
 20           ID            MODEL DATE:            4 JANUARY 96
 21           ID
 22           ID
              *DIAGRAM
 23           IT       5                    1000
 24           IO       5
              *

 25           KK   S51.1
 26           KM     RUNOFF FROM SUBBASIN 51.1
 27           KM        RAINFALL LOSSES FOR GREINER SUBBASINS 51.1 AND 49.1 ARE AREA WEIGHTED
 28           BA   1.130
 29           PH            6.9    0.68    1.32    2.23    2.49    2.66    2.98    3.37    3.76
 30           LS           73.9      12
 31           UK    300   0.037   0.130     100
 32           RK   1800   0.038   0.045  0.0161    TRAP       0      12
 33           RK  14400   0.032   0.040            TRAP      40      15
              *

 34           KK  DVDB-O
 35           KM     DETENTION BASIN AT DEER VALLEY ROAD
 36           KM     PRINCIPAL SPILLWAY:  54" CONDUIT THAT TIES INTO THE PIMA ROAD STORM DRAIN
 37           KM        STAGE-DISCHARGE RATING CURVE REFLECTS NO CLOGGING OF THE TRASHRACK
 38           KM        2 ACRE-FEET OF STORAGE FOR SEDIMENTAION
 39           KM
 40           RS       1    STOR      -1
 41           SV       0    0.54    0.96    1.18    1.68    2.09    3.72     6.3     9.8   14.25
 42           SV   19.23   24.78   30.93   34.23   37.69    41.3   45.08   49.03   57.33   61.54
 43           SQ       0       3      15      28      51      81     143     183     204     216
 44           SQ     224     232     240     243     246     248     251     253     256     259
 45           SE    1855    1856    1857    1858    1859    1860    1862    1864    1866    1868
 46           SE    1870    1872    1874    1875    1876    1877    1878    1879    1880    1881
              *
              *
              *  R51.1
              *    DEER VALLEY BASIN OUTLET CONDUIT TO THOMPSON PEAK PARKWAY
              *    NO ROUTING THROUGH CONDUIT.
              *       L = 2820 feet
```

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

                *
 47             KK  D51.1T
 48             KM     DIVERT 100% OF FLOW TO RETRIEVE AT THOMPSON PEAK PARKWAY
 49             DT  B51.1T
 50             DI       0   10000
 51             DQ       0   10000
                *
                *
                *     ******************  BEGIN DC RANCH WATERSHED  *******************
                *
                *       THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
                *           WOOD/PATEL FILE NAME:  DC0721C.DAT
                *           MODEL DATE:            4 JANUARY 96
                *

 52             KK    52D4
 53             KM   RUNOFF FROM SUBBASIN 52D4
 54             BA    .070
 55             LS              75    14.5
 56             UK     120    .010     .15     100
 57             RK    3100    .035    .045            TRAP      30      10
                *

 58             KK   52D4R
 59             KM   ROUTE 52D4C THROUGH 52D5 TO CP 52D5C
 60             RK    1350    .033    .045            TRAP      10      10
                *

 61             KK   52D4B
 62             KM   RUNOFF FROM SUBBASIN 52D4B
 63             BA    .022
 64             LS              75      63
 65             UK     120    .010     .15     100
 66             RK    2200    .033    .045            TRAP      30      10
                *

 67             KK  52D5C1
 68             KM   COMBINE 52D4R AND 52D4B
 69             HC       2
                *

 70             KK   52D5A
 71             KM   RUNOFF FROM 52D5A
 72             BA   .0232
 73             LS              75      63
 74             UK     120    .010     .15     100
 75             RK    1300    .032    .045            TRAP      30      10
                *

 76             KK  52D5AR
 77             KM   ROUTE 52D5A THROUGH BEARDSLEY CHANNEL TO CP 52D5C2
 78             RK     400   .0143    .035            TRAP      50       4
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 79             KK  52D5C2
 80             KM   COMBINE 25D5C1 AND 52D5AR
 81             HC       2
                *

 82             KK   52D5R
 83             KM   ROUTE 52D5C IN BEARDSLEY CHANNEL TO CP 52C3BC2
 84             RK     240   .0143    .035            TRAP      50       4
                *

 85             KK    52C3
 86             KM   RUNOFF FROM SUBBASIN 52C3
 87             BA    .006
 88             LS              75      65
 89             UK     100     .02     .10     100
 90             RK     800    .033    .045            TRAP      30      10
                *

 91             KK   52C3R
 92             KM   ROUTE 52C3 THROUGH SUBBASIN 52C4 TO CP 52C4C1
 93             RK    1350    .034    .045            TRAP      10      10
                *

 94             KK   52C3B
 95             KM   RUNOFF FROM SUBBASIN 52C3B
 96             BA    .016
 97             LS              75      60
 98             UK     100     .02     .10     100
 99             RK    1400    .034    .045            TRAP      30      10
                *

100             KK  2C3BC1
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```
 101          KM   COMBINE 52C3B AND 52C3R
 102          HC       2
              *

 103          KK  2C3BC2
 104          KM   COMBINE 52C3BC1 AND 52C5R
 105          HC       2
              *

 106          KK  52C3BR
 107          KM   ROUTE 52C3BC2 IN BEARDSLEY CHANNEL TO CP 52C4C2
 108          RK     430   .0143    .035            TRAP      50       4
              *
              *

 109          KK     51C     SUB
 110          KM        RUNOFF FROM SUB 51C
 111          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
 112          KM        CONDITIONS.
 113          BA   .0972
 114          LS              70       5
 115          UK     100   .0213     .10     100
1                                        HEC-1 INPUT                                          PAGE  4

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

 116          RK    3900   .0375    .045            TRAP      30      10
              *

 117          KK   51C1D
 118          KM   DIVERT 67 PERCENT OF 51C TO WEST (33 PERCENT TO SOUTH)
 119          DT  51C1DV
 120          DI       0   10000
 121          DQ       0    6700
              *

 122          KK   51C1R
 123          KM   ROUTE 51C1D THROUGH SUBBASIN 52C1
 124          RK    1350   .0364    .045            TRAP      10      10
              *

 125          KK    52C1
 126          KM   RUNOFF FROM SUBBASIN 52C1
 127          BA    .029
 128          LS              75    20.5
 129          UK     100     .02     .10     100
 130          RK    1350    .021    .045            TRAP      30      10
              *

 131          KK   52C1C
 132          KM   COMBINE 51C1R AND 52C1
 133          HC       2   .0611
              *

 134          KK   52C1R
 135          KM   ROUTE 52C1C THROUGH BASIN 52C2A TO CP 52C2BC
 136          RK    1500    .033    .045            TRAP      10      10
              *

 137          KK   52C2A
 138          KM   RUNOFF FROM SUBBASIN 52C2A
 139          BA    .019
 140          LS              75       2
 141          UK     100     .02     .10     100
 142          RK    1500    .033    .045            TRAP      30      10
              *

 143          KK  52C2AC
 144          KM   COMBINE 52C2A AND 52C1R
 145          HC       2
              *

 146          KK   52C2B
 147          KM   RUNOFF FROM SUBBASIN 52C2B
 148          BA   .0275
 149          LS              75      11
 150          UK     100     .02     .10     100
 151          RK    2000    .030    .045            TRAP      30      10
              *
1                                        HEC-1 INPUT                                          PAGE  5

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

 152          KK  52C2BC
 153          KM   COMBINE 52C2B AND 52C2AC
 154          HC       2
              *

 155          KK  52C2BR
 156          KM   ROUTE 52C2BC THROUGH 52C2C TO CP 52C2CC
 157          RK    1500    .040    .045            TRAP      10      10
              *

 158          KK   52C2C
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```
159          KM   RUNOFF FROM SUBBASIN 52C2C
160          BA    .014
161          LS              75      62
162          UK     100     .02     .10     100
163          RK    1500     .04    .045            TRAP      30      10
             *

164          KK  52C2CC
165          KM   COMBINE 52C2C AND 52C2BR
166          HC       2
             *

167          KK   52C2R
168          KM   ROUTE 52C2CC THROUGH SUBBASIN 52C4 TO CP 52C4C1
169          RK    1550    .030    .045            TRAP      10      10
             *

170          KK    52C4
171          KM   RUNOFF FROM SUBBASIN 52C4
172          BA    .017
173          LS              75      60
174          UK     100     .02     .10     100
175          RK    1550    .030    .045            TRAP      30      10
             *

176          KK  52C4C1
177          KM   COMBINE 52C4 AND 52C2R
178          HC       2
             *

179          KK  52C4C2
180          KM   COMBINE 52C4C1 AND 52C3BR
181          HC       2
             *

182          KK   52C4R
183          KM   ROUTE 52C4C2 WEST IN BEARDSLEY CHANNEL TO CP 52C15C2
184          RK     850   .0143    .035            TRAP      50       4
             *
```



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

185          KK   52C13
186          KM   RUNOFF FROM SUBBASIN 52C13
187          BA    .023
188          LS              75      31
189          UK     100     .02     .10     100
190          RK     950    .040    .045            TRAP      30      10
             *

191          KK  2C13DV
192          KM   DIVERT FIRST 40 CFS INTO STORM DRAIN; REMAINDER FLOWS OVER ROAD
193          DT   STORM
194          DI       0      40    1000
195          DQ       0      40      40
             *
             * KK52C13R
             * KM ROUTE 52C13 THROUGH SUBBASIN 52C15 TO CP 52C15C1
             * RK  1800    .035    .045            TRAP      10      10
             *

196          KK   52C15
197          KM   RUNOFF FROM SUBBASIN 52C15
198          BA    .046
199          LS              75    64.4
200          UK     100     .02     .10     100
201          RK    2050    .036    .045            TRAP      30      10
             *

202          KK  2C15C1
203          KM   COMBINE 52C15 AND 52C13DV
204          HC       2    .046
             *

205          KK  2C15C2
206          KM   COMBINE 52C15C1 AND 52C4R
207          HC       2
             *

208          KK  52C15R
209          KM   ROUTE 52C15C2 IN BEARDSLEY CHANNEL TO CP 52C14C3
210          RK     750   .0143    .035            TRAP      50       4
             *

211          KK  52C14A
212          KM   RUNOFF FROM SUBBASIN 52C14A
213          BA    .041
214          LS              75    67.7
215          UK     100     .02     .10     100
216          RK    2050    .031    .045            TRAP      30      10
             *
```

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

 217          KK  2C14AC
 218          KM   COMBINE 52C14A AND 52C15R
 219          HC       2
              *

 220          KK  2C14AR
 221          KM   ROUTE 52C14AC IN BEARDSLEY CHANNEL TO CP 52C14BC2
 222          RK     380   .0143    .035            TRAP      50       4
              *
              *

 223          KK  51C1DV
 224          KM   RETRIEVE DIVERTED FLOW
 225          DR  51C1DV
              *

 226          KK   51C2D
 227          KM   DIVERT 27 PERCENT OF 51C1DV TO WEST (73 PERCENT TO SOUTH)
 228          DT  51C2DV
 229          DI       0   10000
 230          DQ       0    2700
              *

 231          KK   51C2R
 232          KM   ROUTE 51C2D THROUGH SUBBASIN 52C5 TO CP 52C5C
 233          RK     700    .030    .045            TRAP      10      10
              *

 234          KK    52C5
 235          KM   RUNOFF FROM SUBBASIN 52C5
 236          BA    .016
 237          LS              75      27
 238          UK     100     .02     .10     100
 239          RK    1200     .03    .045            TRAP      30      10
              *

 240          KK   52C5C
 241          KM   COMBINE 51C2R AND 52C5
 242          HC       2   .0635
              *

 243          KK   52C5R
 244          KM   ROUTE 52C5C THROUGH SUBBASIN 52C6 TO CP 52C6C
 245          RK    3100    .035    .045            TRAP      10      10
              *

 246          KK    52C6
 247          KM   RUNOFF FROM SUBBASIN 52C6
 248          BA    .036
 249          LS              75    31.4
 250          UK     100     .02     .10     100
 251          RK    3100    .035    .045            TRAP      30      10
              *
1                                        HEC-1 INPUT                                                PAGE  8

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

 252          KK   52C6C
 253          KM   COMBINE 52C5R AND 52C6
 254          HC       2
              *

 255          KK   52C6R
 256          KM   ROUTE 52C6C THROUGH SUBBASIN 52C10 TO CP 52C10C2
 257          RK     450    .032    .045            TRAP      10      10
              *

 258          KK  51C2DV
 259          KM   RETRIEVE 52C2DV
 260          DR  51C2DV
              *

 261          KK   51C3R
 262          KM   ROUTE 52C2DV THROUGH SUBBASIN 52C7 TO CP 52C7C
 263          RK     700    .040    .045            TRAP      10      10
              *

 264          KK     51B     SUB
 265          KM        RUNOFF FROM SUB 51B
 266          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
 267          KM        CONDITIONS.
 268          BA   .5711
 269          LS              70       5
 270          UK     100   .0213     .10     100
 271          RK    8900   .0300    .045            TRAP      50      25
              *

 272          KK   51B1D
 273          KM   DIVERT 92 PERCENT OF SUBBASIN 51B TO WEST (8 PERCENT TO SOUTH)
 274          DT  51B1DV
 275          DI       0   10000
```

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 276          DQ       0    9200
              *

 277          KK   51B1R
 278          KM    ROUTE 51B1D THROUGH SUBBASIN 52C7 TO CP 52C7C
 279          RK     450     .04    .045            TRAP      10      10
              *

 280          KK    52C7
 281          KM   RUNOFF FROM SUBBASIN 52C7
 282          BA    .006
 283          LS              75      27
 284          UK     100     .02     .10     100
 285          RK     550     .04    .045            TRAP      30      10
              *
1                                          HEC-1 INPUT                                                    PAGE  9

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

 286          KK   52C7C
 287          KM   COMBINE 51B1R, 51C3R, AND 52C7
 288          HC       3   .0693
              *

 289          KK   52C7R
 290          KM   ROUTE 52C7C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 291          RK    1550    .036    .045            TRAP      10      10
              *

 292          KK  51B1DV
 293          KM   RETRIEVE DIVERTED FLOW 51B1DV
 294          DR  51B1DV
              *

 295          KK   51B2D
 296          KM   DIVERT 84 PERCENT OF 51B1DV TO WEST (16 PERCENT TO SOUTH)
 297          DT  51B2DV
 298          DI       0   10000
 299          DQ       0    8400
              *

 300          KK   51B2R
 301          KM   ROUTE 51B2D THROUGH SUBBASIN 52C8 TO CP 52C8C
 302          RK     750    .034    .045            TRAP      10      10
              *

 303          KK    52C8
 304          KM   RUNOFF FROM SUBBASIN 52C8
 305          BA    .008
 306          LS              75      27
 307          UK     100     .02     .10     100
 308          RK     750    .034    .045            TRAP      30      10
              *

 309          KK   52C8C
 310          KM   COMBINE 51B2R AND 52C8
 311          HC       2   .4493
              *

 312          KK   52C8R
 313          KM   ROUTE 52C8C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 314          RK    1100    .036    .045            TRAP      10      10
              *

 315          KK  52C9C1
 316          KM   COMBINE 52C7R AND 52C8R
 317          HC       2
              *
1                                          HEC-1 INPUT                                                   PAGE 10

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

 318          KK  52C9R1
 319          KM   ROUTE 52C9C1 THROUGH SUBBASIN 52C9 TO CP 52C9C2
 320          RK    1050    .036    .045            TRAP      10      10
              *

 321          KK    52C9
 322          KM   RUNOFF FROM SUBBASIN 52C9
 323          BA    .069
 324          LS              75   31.85
 325          UK     100     .02     .10     100
 326          RK    3150    .036    .045            TRAP      30      10
              *

 327          KK  52C9C2
 328          KM   COMBINE 52C9R1 AND 52C9
 329          HC       2
              *

 330          KK  52C9R2
 331          KM   ROUTE 52C9C2 THROUGH SUBBASIN 52C10 TO CP 52C10C1
 332          RK     500    .032    .045            TRAP      10      10
```

```
                *
 333            KK  2C10C1
 334            KM   COMBINE 52C9R2 AND 52C6R
 335            HC       2
                *

 336            KK  2C10R1
 337            KM   ROUTE 52C10C1 THROUGH SUBBASIN 52C10 TO CP 52C10C2
 338            RK    300    .032    .045            TRAP      10      10
                *

 339            KK   52C10
 340            KM   RUNOFF FROM SUBBASIN 52C10
 341            BA    .014
 342            LS              75    7.85
 343            UK     100     .02     .10     100
 344            RK     800    .032    .045            TRAP      30      10
                *

 345            KK  2C10C2
 346            KM   COMBINE 52C10R1 AND 52C10
 347            HC       2
                *

 348            KK   52C11
 349            KM   RUNOFF FROM SUBBASIN 52C11
 350            BA   .0425
 351            LS              75      27
 352            UK     100     .02     .10     100
 353            RK    2800    .031    .045            TRAP      30      10
                *
1                                          HEC-1 INPUT                                                    PAGE 11

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

 354            KK  2C11R1
 355            KM   PIPE ROUTE 52C11 TO CP 52C11C
 356            RK     650     .02    .045            CIRC       3
                *

 357            KK  52C13D
 358            KM   RETRIEVE DIVERTED FLOW
 359            DR   STORM
                *

 360            KK  52C11C
 361            KM   COMBINE 52C13D AND 52C11R1
 362            HC       2   .0655
                *

 363            KK  2C11CR
 364            KM   PIPE ROUTE 52C11C TO CP 52C11C2
 365            RK     750     .02    .045            CIRC       3
                *

 366            KK  2C11C2
 367            KM   COMBINE 52C11CR AND 52C10C2
 368            HC       2
                *

 369            KK  2C11R2
 370            KM   ROUTE 52C11C2 THROUGH SUBBASIN 52C12 TO CP 52C12C
 371            RK     700     .03    .045            TRAP      10      10
                *

 372            KK   52C12
 373            KM   RUNOFF FROM SUBBASIN 52C12
 374            BA    .023
 375            LS              75      85
 376            UK     100     .02     .10     100
 377            RK     900     .03    .045            TRAP      30      10
                *

 378            KK  52C12C
 379            KM   COMBINE 52C11R2 AND 52C12
 380            HC       2
                *

 381            KK  52C12R
 382            KM   ROUTE 52C12C THROUGH SUBBASIN 52C14 TO CP 52C14C1
 383            RK    1150    .029    .045            TRAP      10      10
                *

 384            KK  52C14B
 385            KM   RUNOFF FROM SUBBASIN 52C14B
 386            BA    .021
 387            LS              75      60
 388            UK     100     .02     .10     100
 389            RK    1250    .029    .045            TRAP      30      10
                *
1                                          HEC-1 INPUT                                                    PAGE 12

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
390          KK  C14BC1
391          KM   COMBINE 52C14B AND 52C12R
392          HC       2
             *

393          KK  C14BC2
394          KM   COMBINE 52C14BC1 AND 52C14AR
395          HC       2
             *

396          KK  52C14R
397          KM   ROUTE 52C14C3 WEST IN BEARDSLEY CHANNEL TO CP 52B5C2
398          RK     600   .0143    .035            TRAP      50       4
             *

399          KK  51B2DV
400          KM   RETRIEVE DIVERTED FLOW
401          DR  51B2DV
             *

402          KK   51B3D
403          KM   DIVERT 84 PERCENT OF 51B2DV TO WEST (16 PERCENT TO SOUTH)
404          DT  51B3DV
405          DI       0   10000
406          DQ       0    8400
             *

407          KK   51B3R
408          KM   ROUTE 51B3D THROUGH SUBBASIN 52B1 TO CP 52B1C
409          RK     600    .039    .045            TRAP      10      10
             *

410          KK    52B1
411          KM   RUNOFF FROM SUBBASIN 52B1
412          BA    .003
413          LS              75      27
414          UK     100     .02     .10     100
415          RK     600    .039    .045            TRAP      30      10
             *

416          KK   52B1C
417          KM   COMBINE 51B3R AND 52B1
418          HC       2   .0736
             *

419          KK   52B1R
420          KM   ROUTE 52B1C THROUGH SUBBASIN 52B2 TO CP 52B2C1
421          RK     930    .037    .045            TRAP      10      10
             *
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```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

422          KK  51B3DV
423          KM   RETRIEVE DIVERTED FLOW 51B3DV
424          DR  51B3DV
             *

425          KK   51B4D
426          KM   DIVERT 82 PERCENT OF 51B3DV TO WEST (18 PERCENT TO SOUTH)
427          DT  51B4DV
428          DI       0   10000
429          DQ       0    8200
             *

430          KK  51B4R1
431          KM   ROUTE 51B4D THROUGH SUBBASIN 52B2 TO CP 52B2C1
432          RK    1350    .037    .045            TRAP      10      10
             *

433          KK  52B2C1
434          KM   COMBINE 51B4R1 AND 52B1R
435          HC       2   .1403
             *

436          KK  52B2R1
437          KM   ROUTE 52B2R1 THROUGH SUBBASIN 52B2 TO CP 52B2C2
438          RK    1000    .037    .045            TRAP      10      10
             *

439          KK    52B2
440          KM   RUNOFF FROM SUBBASIN 52B2
441          BA    .032
442          LS              75      17
443          UK     100     .02     .10     100
444          RK    2350    .037    .045            TRAP      30      10
             *

445          KK  52B2C2
446          KM   COMBINE 52B2 AND 52B2R1
447          HC       2
             *
```

```
448          KK  52B2R2
449          KM   ROUTE 52B2C2 THROUGH SUBBASIN 52B3 TO CP 52B3C2
450          RK     850    .026    .045            TRAP      10      10
             *

451          KK  52B3R1
452          KM   ROUTE 52B3C1 THROUGH SUBBASIN 52B3 TO CP 52B3C2
453          RK     500    .024    .045            TRAP      10      10
             *
1                                        HEC-1 INPUT                                                PAGE 14

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

454          KK    52B3
455          KM   RUNOFF FROM SUBBASIN 52B3
456          BA    .062
457          LS              75    31.8
458          UK     100     .02     .10     100
459          RK    3450    .030    .045            TRAP      30      10
             *

460          KK  52B3C2
461          KM   COMBINE 52B3 AND 52B3R1
462          HC       2
             *

463          KK  52B3R2
464          KM   ROUTE 52B3C2 THROUGH 52B4 TO CP 52B4C
465          RK    1700    .024    .045            TRAP      10      10
             *

466          KK    52B4
467          KM   RUNOFF FROM SUBBASIN 52B4
468          BA    .026
469          LS              75      62
470          UK     100     .02     .10     100
471          RK    1700    .024    .045            TRAP      30      10
             *

472          KK   52B4C
473          KM   COMBINE 52B4 AND 52B3R2
474          HC       2
             *

475          KK   52B4R
476          KM   ROUTE 52B4C THROUGH SUBBASIN 52B5 TO CP 52B5C1
477          RK     550    .027    .045            TRAP      10      10
             *

478          KK    52B5
479          KM   RUNOFF FROM SUBBASIN 52B5
480          BA    .021
481          LS              75    56.9
482          UK     100     .02     .10     100
483          RK    1400     .03    .045            TRAP      30      10
             *

484          KK  52B5C1
485          KM   COMBINE 52B5 AND 52B4R
486          HC       2
             *
1                                        HEC-1 INPUT                                                PAGE 15

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

487          KK  52B5C2
488          KM   COMBINE 52B5C1 AND 52C14R
489          HC       2
             *

490          KK   52B5R
491          KM   ROUTE 52B5C2 IN BEARDSLEY CHANNEL TO CP 52B7C2
492          RK    1100   .0143    .035            TRAP      50       4
             *

493          KK  51B4DV
494          KM   RETRIEVE DIVERTED FLOW 51B4DV
495          DR  51B4DV
             *

496          KK   51B5D
497          KM   DIVERT 68 PERCENT OF 51B4DV TO WEST (32 PERCENT TO SOUTH)
498          DT  51B5DV
499          DI       0   10000
500          DQ       0    6800
             *

501          KK   51B5R
502          KM   ROUTE 51B5D THROUGH SUBBASIN 52B6 TO CP 51B7C
503          RK    1250    .035    .045            TRAP      10      10
             *
```

```
504          KK  51B5DV
505          KM   RETRIEVE DIVERTED FLOW
506          DR  51B5DV
             *

507          KK   51B6D
508          KM   DIVERT 53 PERCENT OF 51B5DV TO WEST (47 PERCENT TO SOUTH)
509          DT  51B6DV
510          DI       0   10000
511          DQ       0    5300
             *

512          KK   51B6R
513          KM   ROUTE 51B6D THROUGH SUBBASIN 52B6 TO CP 51B7C
514          RK     925    .033    .045            TRAP      10      10
             *

515          KK  51B6DV
516          KM   RETRIEVE DIVERTED FLOW 51B6DV
517          DR  51B6DV
             *
```



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

518          KK   51B7D
519          KM   DIVERT 58 PERCENT OF 51B6DV TO WEST (42 PERCENT TO SOUTH)
520          DT  51B7DV
521          DI       0   10000
522          DQ       0    5800
             *

523          KK  51B7R1
524          KM   ROUTE 51B7D THROUGH SUBBASIN 52B6 TO CP 51B7C
525          RK     530    .033    .045            TRAP      10      10
             *

526          KK   51B7C
527          KM   COMBINE 51B7R1, 51B5R, AND 51B6R
528          HC       3   .2404
             *

529          KK  51B7R2
530          KM   ROUTE 51B7C THROUGH SUBBASIN 52B6 TO CP 52B6C
531          RK    2300    .033    .045            TRAP      10      10
             *

532          KK    52B6
533          KM   RUNOFF FROM SUBBASIN 52B6
534          BA    .096
535          LS              75   13.55
536          UK     100     .02     .10     100
537          RK    3200    .033    .045            TRAP      30      10
             *

538          KK   52B6C
539          KM   COMBINE 51B7R2 AND 52B6
540          HC       2
             *

541          KK   52B6R
542          KM   ROUTE 52B6C THROUGH SUBBASIN 52B7 TO CP 52B7C1
543          RK    2750    .028    .045            TRAP      10      10
             *

544          KK    52B7
545          KM   RUNOFF FROM SUBBASIN 52B7
546          BA    .080
547          LS              75   78.45
548          UK     100     .02     .10     100
549          RK    2750    .028    .045            TRAP      30      10
             *

550          KK  52B7C1
551          KM   COMBINE 52B7 AND 52B6R
552          HC       2
             *
```



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

553          KK  52B7C2
554          KM   COMBINE 52B7C1 AND 52B5R
555          HC       2
             *

556          KK    52A2
557          KM   RUNOFF FROM SUBBASIN 52A2
558          BA    .065
559          LS              75    88.8
560          UK     100     .02     .10     100
561          RK    2900    .023    .045            TRAP      30      10
             *
```

```
562          KK  52A2C2
563          KM   COMBINE 52B7C2 AND 52A2
564          HC       2    1.62
             *

565          KK  51B7DV
566          KM   RETRIEVE DIVERTED FLOW 51B7DV
567          DR  51B7DV
             *

568          KK   51B8R
569          KM   ROUTE 51B7DV THROUGH SUBBASIN 52A1 TO CP 52A1C
570          RK    3400    .033    .045            TRAP      10      10
             *

571          KK    52A1
572          KM   RUNOFF FROM SUBBASIN 52A1
573          BA    .130
574          LS              75   32.25
575          UK     100     .02     .10     100
576          RK    3400    .033    .045            TRAP      30      10
             *

577          KK   52A1C
578          KM   COMBINE 52A1 AND 51B8R
579          HC       2
             *
             *
             *     ******************  END DC RANCH WATERSHED  ********************
             *
             *
             *     ******************  BEGIN GVSCE MODIFICATIONS  ******************
             *

580          KK   D51.1
581          KM   RETRIEVE DIVERTED FLOW
582          DR  B51.1T
             *
```



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

583          KK    C52A
584          KM     COMBINE ROUTED HYDROGRAPH FROM C51.1 WITH HYDROGRAPH FROM C52A1C AT
585          KM     THOMPSON PEAK PARKWAY
586          HC       2  1.2600
             *
             *   R52A
             *    DEER VALLEY BASIN OUTLET CONDUIT TO JUNCTION AT SIERRA PINTA CHANNEL
             *    NO ROUTING IN CONDUIT.
             *       L = 3130 feet
             *

587          KK     C52
588          KM     COMBINE ROUTED HYDROGRAPH FROM C52A WITH HYDROGRAPH FROM C52A2C AT
589          KM     BEARDSLEY ROAD
590          HC       2  2.9025
             *

591          KK     R52
592          KM     LAG THE HYDROGRAPH BY ONE TIME STEP TO ACCOUNT FOR TRAVEL TIME IN THE
593          KM     CONDUIT.
594          KM        ASSUME WAVE CELERITY = 15-20 fps AND TOTAL LENGTH OF 4050'
595          RT                      1
             *
             *

596          KK    D52T
597          KM     DIVERT 100% OF FLOW TO RETRIEVE JUST U/S OF THE PIMA FREEWAY EAST-BASIN
598          DT    B52T
599          DI       0   10000
600          DQ       0   10000
             *

601          KK   CLEAR
602          KM     CLEAR HYDROGRAPHS FROM STACK
603          HC       2
             *
             *
             *     ******************  BEGIN GRAYHAWK WATERSHED  ******************
             *
             *       THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
             *           DEI FILE NAME:  GH23FAB.H1I
             *           MODEL DATE:     21 MAY 96
             *

604          KK      1B
605          KM        RUNOFF FROM INTERIM SUBBASIN 1B
606          BA  0.3573
607          LS            73.5      15
608          UK     300    0.02    0.13     100
609          RK    1420    0.02   0.045   0.015    TRAP       5      10
610          RK    7000    0.02    0.04            TRAP      10       5
```

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

 611            KK   37AE1      CP
 612            KM        ROUTE NON-DIVERTED FLOW FROM DIV 37AE THROUGH SUB 5N.  THIS IS A
 613            KM        PRELIMINARY CHANNEL CONFIGURATION FOR THE GOLF COURSE CHANNEL.
 614            RS       1    FLOW
 615            RC    .055    .045    .055     800    .025
 616            RX       0      16      26      30      40      44      54      70
 617            RY       6       2       2       0       0       2       2       6
                *

 618            KK   SUB5N
 619            KM        RUNOFF FROM SUBBASIN 5 IN NORTH 18 MODEL.
 620            BA   0.029
 621            LS             77      18
 622            UK     100    .013     .15     100
 623            RK    1000   0.005    .018    .015    TRAP      50      20
 624            RK     500    .015    .025            TRAP      10       4
                *

 625            KK    CP5N
 626            KM        ADD HYDROGRAPHS AT CP5N
 627            HC       2
                *

 628            KK   RET5N
 629            KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 5.  18" PIPE OUTFLOW WILL
 630            KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
 631            RS       1    STOR       0       0
 632            SV       0     .04     .33     .93     1.8    2.35    3.16     4.2     6.1
 633            SQ       0       8      10      12      15      17     102     191     668
 634            SE    1797    1798    1800    1802    1804    1805    1806    1807    1808
                *

 635            KK   R6N.1
 636            KM        ROUTE FLOW FROM CP5 TO CP6 IN NORTH 18 MODEL
 637            KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
 638            KM        CHANNEL.
 639            RS       1    FLOW
 640            RC    .055    .045    .055    2200    .025
 641            RX       0      16      26      30      40      44      54      70
 642            RY       6       2       2       0       0       2       2       6
                *

 643            KK   SUB6B
 644            KM        RUNOFF FROM WEST PORTION OF EXISTING SUB6N ADJACENT TO CHANNEL
 645            BA    .032
 646            LS             81       0
 647            UK     200    .025     .15     100
 648            RK    1300    .015    .025            TRAP      10       4
                *
```



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

 649            KK    SR6B
 650            KM        ROUTE FLOW THROUGH RETENTION BASIN IN DRIVING RANGE CHANNEL
 651            RS       1    STOR       0       0
 652            SV       0     .17     .57    1.12    1.78
 653            SQ       0       8      10     120     380
 654            SE    1772    1773    1774    1775    1776
                *

 655            KK   CP6.1
 656            KM        ADD HYDROGRAPHS AT CP6.1
 657            HC       2
                *

 658            KK   SUB1N
 659            KM        RUNOFF FROM SUBBASIN 1N
 660            BA    .019
 661            LS             77      18
 662            UK     100    .013     .15     100
 663            RK    1470   .0204    .018            TRAP      50      20
                *

 664            KK    R2NA
 665            KM        ROUTE FLOW FROM CP1 TO CP2NA
 666            RS       1    FLOW
 667            RC     .03     .03     .03     400    .025
 668            RX       0       8      13      17      22      26      31      39
 669            RY       4       2       2       0       0       2       2       4
                *

 670            KK  SUB2NA
 671            KM        RUNOFF FROM SUBBASIN 2NA
 672            BA    .015
 673            LS             81       0
 674            UK     150    .013     .15     100
 675            RK    1050   .0215    .025            TRAP      20       6
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```
                 *
 676             KK   CP2NA
 677             KM        ADD HYDROGRAPHS AT CP2NA
 678             HC       2
                 *

 679             KK   SR2NA
 680             KM        ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NA
 681             RS       1    STOR       0       0
 682             SV       0    .076    .291    .708     1.2
 683             SQ       0       0       0       0     160
 684             SE    1772    1773    1774    1775    1776
                 *
1                                          HEC-1 INPUT                                                    PAGE 21

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

 685             KK    R2NB
 686             KM        ROUTE FLOW FROM CP2NA TO CP2NB
 687             RS       1    FLOW
 688             RC     .03     .03     .03    1050    .015
 689             RX       0       8      13      17      22      26      31      39
 690             RY       4       2       2       0       0       2       2       4
                 *

 691             KK  SUB2NB
 692             KM        RUNOFF FROM SUBBASIN 2NB
 693             BA     .03
 694             LS              77      53
 695             UK     150    .013     .15     100
 696             RK    1200    .015    .025            TRAP      20      50
                 *

 697             KK   CP2NB
 698             KM        ADD HYDROGRAPHS AT CP2NB
 699             HC       2
                 *

 700             KK   SR2NB
 701             KM        STORAGE ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NB
 702             RS       1    STOR       0       0
 703             SV       0     .19     .69    1.66    3.23     4.5
 704             SQ       0       2       8      12      17     170
 705             SE    1796    1798    1800    1802    1804    1805
                 *

 706             KK   RCP4N
 707             KM        ROUTE FLOW FROM CP2NB TO CP4N
 708             RS       1    FLOW
 709             RC     .03     .03     .03     740    .018
 710             RX       0       8      13      17      22      26      31      39
 711             RY       4       2       2       0       0       2       2       4
                 *

 712             KK   SUB6N
 713             KM        RUNOFF FROM SUBBASIN 6 IN NORTH 18 MODEL.  TO LAKE NORTH OF CLUBHOUSE.
 714             BA    .049
 715             LS              81       0
 716             UK     200    .025     .15     100
 717             RK    1300    .015    .025            TRAP      10       4
                 *

 718             KK   RET6N
 719             KM        RETENTION ROUTING THROUGH LAKE AT HOLE 18, NORTH COURSE.
 720             RS       1    STOR
 721             SV       0    3.01    6.64   10.75   13.09   15.90
 722             SQ       0       0       0      10      26     100
 723             SE    1782    1784    1786    1788    1789    1790
                 *
1                                          HEC-1 INPUT                                                    PAGE 22

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

 724             KK  RCP4N1
 725             KM        ROUTE FLOW FROM CP6N TO CP4N
 726             RS       1    FLOW
 727             RC     .03     .03     .03     550    .018
 728             RX       0       8      13      17      22      26      31      39
 729             RY       4       2       2       0       0       2       2       4
                 *

 730             KK  CP4N.1
 731             KM        ADD HYDROGRAPHS AT CP4N.1
 732             HC       2
                 *

 733             KK   SUB3N
 734             KM        RUNOFF FROM SUBBASIN 3N, NORTH 18 MODEL
 735             BA    .027
 736             LS              81       0
 737             UK     100     .02     .15     100
 738             RK    2800  0.0207    .025            TRAP      10       4
```

```
                 *
 739             KK   RET3N
 740             KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 3.  18" PIPE OUTFLOW WILL
 741             KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
 742             RS       1    STOR       0       0
 743             SV       0    1.73    8.97   13.32   15.74
 744             SQ       0       4       7       9      11
 745             SE    1793    1795    1800    1803    1804
                 *

 746             KK     R4N
 747             KM        ROUTE FLOW FROM CP3N TO CP4N IN NORTH MODEL
 748             RS       1    FLOW
 749             RC    .035    .035    .035     950    .018
 750             RX       0       8      13      17      22      26      31      39
 751             RY       4       2       2       0       0       2       2       4
                 *

 752             KK  CP4N.2
 753             KM        ADD HYDROGRAPHS AT CPN.2
 754             HC       2
                 *

 755             KK   SUB4N
 756             KM        RUNOFF FROM SUBBASIN 4N.
 757             BA    .032
 758             LS              77      18
 759             UK     100    .015     .15     100
 760             RK    1200   0.007    .018            TRAP      50      20
                 *
1                                          HEC-1 INPUT                                          PAGE 23

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

 761             KK    CP4N
 762             KM        ADD HYDROGRAPHS AT CP4N
 763             HC       2
                 *

 764             KK     R6N
 765             KM        ROUTE FLOW FROM CP4N TO CP6N ALONG THOMPSON PEAK PKWY AT CLUBHOUSE
 766             RS       1    FLOW
 767             RC    .045    .035    .045     750    .025
 768             RX       0       8      13      17      22      26      31      39
 769             RY       4       2       2       0       0       2       2       4
                 *

 770             KK   SUB6A
 771             KM        RUNOFF FROM SUBBASIN 6A (CLUBHOUSE AREA NORTH OF THOMPSON PEAK PKWY).
 772             BA    .013
 773             LS              83      68
 774             UK     100    .015     .12     100
 775             RK     800     .01    .025            TRAP       2       3
                 *

 776             KK   CP6.2
 777             KM        ADD HYDROGRAPHS AT CP6.2
 778             HC       2
                 *

 779             KK    CP6N
 780             KM        ADD HYDROGRAPHS AT CP6N
 781             HC       2
                 *
                 *      ABOVE DISCHARGE FROM NORTH 18 THROUGH BRIDGE AT TPP STATION 103+45
                 *

 782             KK   RCP6N
 783             KM        ROUTE FLOW FROM CP6N TO CP3C
 784             RS       1    FLOW
 785             RC    .045    .035    .045     300    .015
 786             RX       0       8      13      17      37      45      51      59
 787             RY       4       2       2       0       0       2       2       4
                 *

 788             KK   SUB3C
 789             KM        RUNOFF FROM SUBBASIN 3C, SOUTH COURSE AT MAINTENANCE FACILITY.
 790             BA   .0104
 791             LS              77      68
 792             UK     100    .025     .02     100
 793             RK     600    .015    .035            TRAP      50      20
                 *
1                                          HEC-1 INPUT                                          PAGE 24

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

 794             KK    CP3C
 795             KM        COMBINE NORTH COURSE HYDROGRAPH WITH FIRST SOUTH COURSE HYDROGRAPH
 796             HC       2
                 *

 797             KK     R3C
```

```
 798          KM        ROUTE FLOW FROM SUB3C TO CP3 THROUGH GC1018
 799          KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
 800          KM        CHANNEL.
 801          RS       1    FLOW
 802          RC    .055    .045    .055    2050    .025
 803          RX       0      20      30      40      60      70      80     100
 804          RY    1650    1746    1744    1742    1742    1744    1746    1750
              *

 805          KK  GC1018
 806          KM        RUNOFF FROM HOLES NO. 10, 18 AND DRIVING RANGE THAT CONTRIBUTE TO WASH
 807          BA    .044
 808          LS              81       0
 809          UK     200    .025     .15     100
 810          RK    1800   .0233    .025            TRAP      10       4
              *

 811          KK   GC1-9
 812          KM        RUNOFF FROM GOLF COURSE HOLES 1 & 9 CONTRIBUTING TO WASH
 813          BA    .026
 814          LS              81       0
 815          UK     200    .025     .15     100
 816          RK    2110    .022    .025            TRAP      10       4
              *

 817          KK   SUB3S
 818          KM        RUNOFF FROM SUB BASIN 3 SOUTH COURSE
 819          BA   .0102
 820          LS              77      53
 821          UK     100    .010     .15     100
 822          RK     930    .016    .025            TRAP      50      20
              *

 823          KK    CP3S
 824          KM        COMBINE HYDROGRAPHS AT CP3 SOUTH COURSE
 825          HC       4
              *

 826          KK    RT3S
 827          KM        ROUTE FLOW FROM CP3S TO CPGC28
 828          RS       1    FLOW       0       0
 829          RC    .055    .045    .055     900    .023
 830          RX       0      20      30      40      60      70      80     100
 831          RY    1750    1746    1744    1742    1742    1744    1746    1750
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 832          KK   SUB4S
 833          KM        RUNOFF FROM SUB BASIN 4 SOUTH COURSE
 834          BA   .0273
 835          LS              77      53
 836          UK     100    .010     .15     100
 837          RK    1780    .018    .015            TRAP      50      20
              *

 838          KK    RT4S
 839          KM        ROUTE FLOW FROM CP4S TO CPGC28
 840          RS       1    FLOW       0       0
 841          RC    .035    .035    .035     650    .015
 842          RX       0      20      30      40      45      55      65      75
 843          RY    1750    1746    1744    1742    1742    1744    1746    1750
              *

 844          KK   GC2-8
 845          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES NO. 2 AND 8
 846          BA    .014
 847          LS              81       0
 848          UK     200    .025     .15     100
 849          RK     980    .016    .025            TRAP      10       4
              *

 850          KK  1PGC28
 851          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
 852          HC       3
              *

 853          KK  SUB3D3
 854          KM        RUNOFF FROM GRAYHAWK ROAD SOUTH OF THOMPOSON PEAK
 855          BA    .014
 856          LS              81       0
 857          UK      50    .015      .1     100
 858          RK    2450    .016    .025            TRAP       5       4
              *

 859          KK  CPGC28
 860          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
 861          HC       2
              *

 862          KK  SRGC28
 863          KM        STORAGE THRU DETENTION BASIN ON HOLES 2 AND 8.
 864          RS       1    STOR       0       0
```

```
865          SV       0    .018    .085     .22      .5     1.0     1.7    2.68     3.9
866          SE    1706    1707    1708    1709    1710    1711    1712    1713    1714
867          SQ       0      10      18      20      30     108     324     651    1070
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

868          KK    RT7S
869          KM        ROUTE FLOW FROM SRGC28 TO CP7S
870          RS       1    STOR       0       0
871          RC    .055    .045    .055    1700   .0187
872          RX       0      20      30      40      60      70      80     100
873          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *

874          KK     GC7
875          KM        RUNOFF FROM SOUTH GOLF COURSE HOLE NO. 7
876          BA   .0134
877          LS              81       0
878          UK     200    .025     .15     100
879          RK    1380    .020    .025            TRAP      10       4
             *

880          KK    CP7S
881          KM        ADD HYDROGRAPHS AT CP7S ON SOUTH COURSE
882          HC       2  0.7626
             *

883          KK    D7ST
884          KM        D7ST IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
885          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
886          KM
887          KM        DIVERT 100% OF FLOW
888          DT    B7ST
889          DI       0   10000
890          DQ       0   10000
             *

891          KK   CLEAR
892          KM        CLEAR HYDROGRAPHS FROM THE STACK.
893          HC       2
             *
             *
             * THIS PORTION OF MODEL TAKEN FROM,"DRAINAGE REPORT FOR VILLAGE 3 - PHASE 1",
             * APPROVED BY THE CITY OF SCOTTSDALE 7-19-95.  MODIFIED TO ACCOUNT FOR ASBUILT
             * CONDITION
             *
             *
             *
             *

894          KK  SUB3D1
895          KM        RUNOFF FROM SUBBASIN 3D1, PARCEL 3D.
896          BA   .0088
897          LS              77      34
898          UD     .06
             *
```



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

899          KK   RD1B1
900          KM        FOUTE FLOW FROM 3D1 TO 3B1
901          RS       1    FLOW      -1
902          RC    0.03    0.03    0.03    1250    .015
903          RX       0     0.5       1       7      12      19    19.5      20
904          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
             *

905          KK  SUB3B1
906          KM        RUNOFF FROM SUBBASIN 3B1, PARCEL 3B.
907          BA   .0137
908          LS              77      47
909          UD     .06
             *

910          KK   CP3B1
911          KM        ADD HYDROGRAGHS AT CP3B1
912          HC       2
             *

913          KK   RB13F
914          KM        ROUTE FLOW FROM 3B1 TO SUB3F
915          RS       1    FLOW      -1
916          RC    0.03    0.03    0.03    2150    .015
917          RX       0     0.5       1       7      17      24    24.5      25
918          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
             *

919          KK   SUB3F
920          KM        RUNOFF FROM SUBBASIN 3F, PARCEL 3F, SOUTH COURSE MODEL.
921          BA   .0344
```

```
 922          LS              77      68
 923          UK     100    .025     .15     100
 924          RK    1000    .015    .025            TRAP     100      20
              *

 925          KK    CP3F
 926          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3F ALONG THE POWER CORRIDOR
 927          HC       2
              *

 928          KK  SUB3B2
 929          KM        RUNOFF FROM SUBBASIN 3B2, PARCEL 3B.
 930          BA   .0246
 931          LS              77      40
 932          UD     .10
              *

 933          KK   RB2E1
 934          KM        1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
 935          RS       1    FLOW      -1
 936          RC    0.03    0.03    0.03     800    0.02
 937          RX       0     0.5       1       7      17      24    24.5      25
 938          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
              *
1                                                HEC-1 INPUT                                                PAGE 28

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

 939          KK   RB2E2
 940          KM       SECOND 1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
 941          RS       1    FLOW      -1
 942          RC    0.03    0.03    0.03     600    .015
 943          RX       0     0.5       1       7      17      24    24.5      25
 944          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
              *

 945          KK  SUB3E1
 946          KM        RUNOFF FROM SUBBASIN 3E1, PARCEL 3E.
 947          BA   .0246
 948          LS              77      40
 949          UD     .10
              *

 950          KK  1CPE31
 951          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E1 ALONG THE POWER CORRIDOR
 952          HC       2
              *

 953          KK  SUB3D2
 954          KM        RUNOFF FROM SUBBASIN 3D2, PARCEL 3D.
 955          BA    .022
 956          LS              77      35
 957          UD     .08
              *

 958          KK   RD2E2
 959          KM        ROUTE EXCESS FROM 3D2 TO CP3E2
 960          RS       1    FLOW      -1
 961          RC    0.03    0.03    0.03    1200   .0216
 962          RX       0     0.5       1       7      17      24    24.5      25
 963          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
              *

 964          KK  SUB3E2
 965          KM        RUNOFF FROM SUBBASIN 3E2, PARCEL 3E.
 966          BA    .012
 967          LS              77      35
 968          UD     .06
              *

 969          KK   CP3E2
 970          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E2 ALONG THE POWER CORRIDOR
 971          HC       2
              *

 972          KK     PC3
 973          KM        PC3 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
 974          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
 975          KM
 976          KM        RUNOFF FROM SUBBASIN PC3.
 977          BA  0.0434
 978          LS              77      10
1                                                HEC-1 INPUT                                                PAGE 29

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

 979          UK     300    .015     .15     100
 980          RK    2200     .01     .03            TRAP      30       4
              *

 981          KK    CPC3
 982          KM        CPC3 IS A CONCENTRATION POINT ADDED BY GVSCE TO ESTIMATE THE INFLOW TO
 983          KM        THE POWER LINE CHANNEL AT THE HAYDEN ROAD CROSSING.
 984          KM
```

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 985          KM        COMBINE ROUTED HYDROGRAPH FROM SRPC2 W/HYDROGRAPHS FROM CP3E1, CP3E2 AND
 986          KM        CP3F AND RUNOFF FROM PC3.
 987          HC       4  0.1835
              *

 988          KK   DPC3T
 989          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
 990          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
 991          KM
 992          KM        DIVERT 100% OF FLOW
 993          DT   BPC3T
 994          DI       0   10000
 995          DQ       0   10000
              *

 996          KK  SUB3E3
 997          KM        RUNOFF FROM SUBBASIN 3E3, PARCEL 3E.
 998          BA    .020
 999          LS              77      32
1000          UD     .06
              *

1001          KK     PC4
1002          KM        PC4 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1003          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1004          KM
1005          KM        RUNOFF FROM SUBBASIN PC4.
1006          BA  0.0217
1007          LS              77       0
1008          UK    300    .015     .15     100
1009          RK   1100     .01     .03            TRAP      30       4
              *

1010          KK     D7S
1011          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1012          KM        LOOP DETENTION BASIN VIA THE POWER LINE CHANNEL.
1013          KM
1014          KM        RETRIEVE DIVERTED FLOW
1015          DR    B7ST
              *

1016          KK    CPC4
1017          KM        THE HEC1 OPREATION TEMPAD IS CHANGED BY GVSCE TO ESTIMATE THE INFLOW TO
1018          KM        THE POWER LINE CHANNEL WHERE THE FLOW FROM CP7S ENTERS THE CHANNEL.
1019          KM
1020          KM        COMBINE HYDROGRAPH FROM CP3E3 W/RUNOFF FROM PC4.
1021          HC       3  0.8043
              *
1                                          HEC-1 INPUT                                          PAGE 30

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

1022          KK   DPC4T
1023          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1024          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1025          KM
1026          KM        DIVERT 100% OF FLOW
1027          DT   BPC4T
1028          DI       0   10000
1029          DQ       0   10000
              *

1030          KK   CLEAR
1031          KM        CLEAR HYDROGRAPHS FROM THE STACK.
1032          HC       3
              *
              *
              *       THIS ENDS THE PORTION OF THE MODEL TAKEN FROM DRAINAGE REPORT
              *       FOR VILLAGE 3 - PHASE I HEC-1 MODEL BY GILBERTSON ASSOC. INC.
              *       DATED 7-19-95
              *
              *
              *
              * RETURN TO NORTH 18\VILLAGE 2\TPP3 MODEL.
              * THE REMAINDER OF THE SUBBASINS IN THIS  MODEL  WILL CONTRIBUTE TO THE
              * PROPOSED CHANNNEL IN THE POWER EASEMENT AS IDENTIFIED IN THE
              * "COMMUNITY DRAINAGE STUDY - CORE NORTH AND WILL DISCHARGE TO REGIONAL
              * RETENTION BASIN 38R1.
              *
              *

1033          KK     1A1
1034          KM        RUNOFF FROM INTERIM SUBBASIN 1A
1035          BA  0.7465
1036          LS              70       0
1037          UK    300    0.02    0.13     100
1038          RK   1420   0.032   0.045  0.0061    TRAP       0      13
1039          RK  10800   0.033   0.045            TRAP      10       9
              *

1040          KK    R1A1
1041          KM
1042          RS       3    FLOW      -1
1043          RC   0.035   0.035   0.035    6000   0.025
```

```
1044          RX    1000    1010    1020    1030    1080    1090    1100    1110
1045          RY       3       2       1       0       0       1       2       3
              *

1046          KK     1A2
1047          KM        RUNOFF FROM INTERIM SUBBASIN 1A
1048          BA  0.6108
1049          LS            74.5      25
1050          UK     150    0.01    0.10     100
1051          RK    1000    0.02   0.025   0.028    TRAP       0      20
1052          RK    5000   0.025   0.035            TRAP      50      10
              *
1                                          HEC-1 INPUT                                                    PAGE 31

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

1053          KK     C1A
1054          KM
1055          HC       2
              *

1056          KK    R14R
1057          KM        ROUTE FLOW FROM DIVERT AT DEER VALLEY ROAD (UPSTREAM OF SUBBAIN 5) TO
1058          KM        RET14.1
1059          RS       1    FLOW
1060          RC    .055    .045    .055    2900     .01
1061          RX       0      16      26      30      50      54      64      80
1062          RY       6       2       2       0       0       2       2       6
              * RET 141 HAS BEEN REVISED FOLLOWING REFINEMENT OF GRADING PLANS 11-16-94
              *

1063          KK  RET141
1064          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.1.  18" PIPE OUTFLOW WILL
1065          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1066          RS       1    STOR       0       0
1067          SV       0     .46    2.79    4.56    5.71    6.92    8.24
1068          SQ       0      11      15      22     147     463     968
1069          SE    1778    1785    1790    1792    1793    1794    1795
              *

1070          KK   R14.1
1071          KM        ROUTE FLOW FROM RET14.1 TO CP14
1072          KM        RET14.1
1073          RS       1    FLOW
1074          RC    .055    .045    .055    1900     .01
1075          RX       0      16      26      30      50      54      64      80
1076          RY       6       2       2       0       0       2       2       6
              *

1077          KK  SUB13N
1078          KM        RUNOFF FROM SUBBASIN 13 NORTH 18 MODEL.
1079          BA    .037
1080          LS              77      24
1081          UK     100    .015     .15     100
1082          RK    2400    .007    .018            TRAP      50      20
              *

1083          KK   R14.1
1084          KM        ROUTE FLOW FROM CP13 TO RET14 NORTH 18 MODEL.
1085          RS       1    FLOW
1086          RC    .055    .045    .055     950    .025
1087          RX       0       8      13      17      22      26      31      39
1088          RY       4       2       2       0       0       2       2       4
              *
1                                          HEC-1 INPUT                                                    PAGE 32

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

1089          KK  SUB14N
1090          KM        RUNOFF FROM SUBBASIN 14 NORTH 18 MODEL.
1091          BA    .049
1092          LS              81       0
1093          UK     300    .025     .15     100
1094          RK    2300     .01    .025            TRAP      10       4
              *

1095          KK    CP14
1096          KM        ADD HYDROGRAPHS AT CP14
1097          HC       3
              *

1098          KK   RET14
1099          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.  18" PIPE OUTFLOW WILL
1100          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1101          RS       1    STOR       0       0
1102          SV       0     .08     .31    1.01    2.16    3.20    4.19    5.69     7.8
1103          SQ       0      14      16      18      20      22     155     464     750
1104          SE    1744    1746    1748    1750    1752    1753    1754    1755    1756
              *

1105          KK   R18.1
1106          KM        ROUTE FLOW FROM RET14 TO CP18
1107          RS       1    FLOW
```

```
1108          RC    .055    .045    .055     500    .016
1109          RX       0      16      26      34      54      68      78      96
1110          RY       6       2       2       0       0       2       2       6
              *

1111          KK  SUB20N
1112          KM        RUNOFF FROM SUBBASIN 20.
1113          BA    .024
1114          LS              77      24
1115          UK     200     .01     .15     100
1116          RK    1400     .02    .018            TRAP      50      20
              *

1117          KK     R19
1118          KM        ROUTE FLOW FROM CP20 TO CP19
1119          RS       1    FLOW
1120          RC    .035    .035    .035     700     .02
1121          RX       0       8      13      17      22      26      31      39
1122          RY       4       2       2       0       0       2       2       4
              *

1123          KK  SUB19N
1124          KM        RUNOFF FROM SUBBASIN 19.
1125          BA    .038
1126          LS              77      31
1127          UK     150     .01     .15     100
1128          RK    1800    .015    .018            TRAP      50      20
              *
1                                        HEC-1 INPUT                                        PAGE 33

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

1129          KK   CP19N
1130          KM        ADD HYDROGRAPHS  AT CP19N
1131          HC       2
              *

1132          KK   R18NC
1133          KM        ROUTE FLOW FROM  CP19N TO CP18NC
1134          RS       1    FLOW
1135          RC    .035    .035    .035     700    .013
1136          RX       0       8      13      17      27      31      36      44
1137          RY       4       2       2       0       0       2       2       4
              *

1138          KK  UB18NC
1139          KM        RUNOFF FROM SUBBASIN 18NC.
1140          BA    .021
1141          LS              77      42
1142          UK     100     .01     .15     100
1143          RK    1550     .02    .018            TRAP      50      20
              *

1144          KK  CP18NC
1145          KM        ADD HYDROGRAPHS  AT CP18NC (INCLUDES R18.1, R18, AND SUB18)
1146          HC       3
              *

1147          KK    RPC1
1148          KM        ROUTE FLOW FROM CP18N TO CPC1.
1149          RS       1    FLOW
1150          RC    .035    .035    .035     510    .013
1151          RX       0      16      26      34      64      78      88     106
1152          RY       6       2       2       0       0       2       2       6
              *

1153          KK  UB18NA
1154          KM        RUNOFF FROM SUBBASIN 18NA.
1155          BA    .022
1156          LS              77      42
1157          UK     100     .01     .15     100
1158          RK    1450     .02    .018            TRAP      50      20
              *

1159          KK   1RPC1
1160          KM        ROUTE FLOW FROM CP18NA TO CPC1.
1161          RS       1    FLOW
1162          RC    .035    .035    .035    2550     .01
1163          RX       0      16      26      34      64      78      88     106
1164          RY       8       4       2       0       0       2       4       8
              *
1                                        HEC-1 INPUT                                        PAGE 34

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

1165          KK  UB18NB
1166          KM        RUNOFF FROM SUBBASIN 18NB.
1167          BA   .0096
1168          LS              77      42
1169          UK     100     .01     .15     100
1170          RK     800     .02    .018            TRAP      50      20
              *
```

```
1171          KK   2RPC1
1172          KM        ROUTE FLOW FROM CP18NB TO CPC1.
1173          RS       1    FLOW
1174          RC    .035    .035    .035    2000     .01
1175          RX       0      16      26      34      64      78      88     106
1176          RY       8       4       2       0       0       2       4       8
              *

1177          KK     PC1
1178          KM        RUNOFF FROM SUBBASIN PC1.
1179          BA    .062
1180          LS              77      10
1181          UK     500    .015     .15     100
1182          RK    2700     .01     .03            TRAP      30       4
              *

1183          KK   1CPC1
1184          KM        ADD HYDROGRAPHS  AT CPC1.
1185          HC       3
              *

1186          KK   SRPC1
1187          KM        STOAGE ROUTE THROUGH DET BASIN IN POWER CORRIDOR.
1188          RS       1    STOR       0       0
1189          SV       0     .29     .73
1190          SQ       0       0     350
1191          SE    1747    1748    1749
              *

1192          KK    CPC1
1193          KM        ADD HYDROGRAPHS  AT CPC1.
1194          HC       2
              *

1195          KK  R16NA1
1196          KM        ROUTE FLOW FROM CPC1 TO C16NA1.
1197          RS       1    FLOW
1198          RC    .035    .035    .035     700    .013
1199          RX       0      16      26      34      74      88      98     116
1200          RY       8       4       2       0       0       2       4       8
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1201          KK  UB16NA
1202          KM        RUNOFF FROM SUBBASIN 16NA.
1203          BA   .0139
1204          LS              77      42
1205          UK     100    .015     .15     100
1206          RK    1500    .015    .022            TRAP      50      20
              *

1207          KK  R16NA1
1208          KM        ROUTE FLOW FROM CP16NA TO CP16NA1.
1209          RS       1    FLOW
1210          RC    .035    .035    .035     550    .013
1211          RX       0      16      26      34      44      58      68      86
1212          RY       6       2       2       0       0       2       2       6
              *

1213          KK  C16NA1
1214          KM        ADD HYDROGRAPHS  AT CP16NA1.
1215          HC       2
              *

1216          KK  R16NB1
1217          KM        ROUTE FLOW FROM CP16NA1 TO CP16NB1.
1218          RS       1    FLOW
1219          RC    .035    .035    .035     650    .013
1220          RX       0      16      26      34      74      88      98     116
1221          RY       8       4       2       0       0       2       4       8
              *

1222          KK  UB16NB
1223          KM        RUNOFF FROM SUBBASIN 16NB.
1224          BA   .0156
1225          LS              77      42
1226          UK     100    .015     .15     100
1227          RK    1500    .015    .022            TRAP      50      20
              *

1228          KK  R16NB1
1229          KM        ROUTE FLOW FROM CP16NB TO CP16NB1.
1230          RS       1    FLOW
1231          RC    .035    .035    .035     550    .013
1232          RX       0      16      26      34      44      58      68      86
1233          RY       6       2       2       0       0       2       2       6
              *

1234          KK  C16NB1
1235          KM        ADD HYDROGRAPHS  AT CP16NB1.
1236          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1237          KK  R16NC1
1238          KM        ROUTE FLOW FROM CP16NB1 TO CP16NC1.
1239          RS       1    FLOW
1240          RC    .035    .035    .035     650    .013
1241          RX       0      16      26      34      54      68      78      96
1242          RY       6       2       2       0       0       2       2       6
              *

1243          KK   SUB7N
1244          KM        RUNOFF FROM SUBBASIN 7N.
1245          BA    .031
1246          LS              77      18
1247          UK     100    .015     .15     100
1248          RK    1900     .01    .018            TRAP      50      20
              *

1249          KK    R8NC
1250          KM        ROUTE FLOW FROM CP7N TO CP8NC.
1251          RS       1    FLOW
1252          RC    .055    .045    .055     700    .025
1253          RX       0       8      13      17      22      26      31      39
1254          RY       4       2       2       0       0       2       2       4
              *

1255          KK  SUB8NA
1256          KM        RUNOFF FROM SUBBASIN 8NA.
1257          BA   .0046
1258          LS              81       0
1259          UK     100     .03     .15     100
1260          RK     450     .03    .025            TRAP      20       6
              *

1261          KK   SR8NA
1262          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NA.
1263          RS       1    STOR       0       0
1264          SV       0     .51    .816
1265          SQ       0       1      43
1266          SE    1791    1795    1796
              *

1267          KK    R8NB
1268          KM        ROUTE FLOW FROM CP8NA TO CP8NB.
1269          RS       1    FLOW
1270          RC    .025    .025    .025     300     .03
1271          RX       0      12      24      36      56      68      80      92
1272          RY       6       4       2       0       0       2       4       6
              *

1273          KK  SUB8NB
1274          KM        RUNOFF FROM SUBBASIN 8NB.
1275          BA   .0142
1276          LS              81       0
1277          UK     100     .03     .15     100
1278          RK    1150    .025    .025            TRAP      20       6
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1279          KK   CP8NB
1280          KM        ADD HYDROGRAPHS AT CP8NB.
1281          HC       2
              *

1282          KK   SR8NB
1283          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NB.
1284          RS       1    STOR       0       0
1285          SV       0   .0124   1.754    2.45
1286          SQ       0       2       2      72
1287          SE    1784    1785    1790    1791
              *

1288          KK    R8NC
1289          KM        ROUTE FLOW FROM CP8NB TO CP8NC.
1290          RS       1    FLOW
1291          RC    .025    .025    .025     500     .03
1292          RX       0      12      24      36      56      68      80      92
1293          RY       6       4       2       0       0       2       4       6
              *

1294          KK  SUB8NC
1295          KM        RUNOFF FROM SUBBASIN 8NC.
1296          BA   .0182
1297          LS              81       0
1298          UK     100     .03     .15     100
1299          RK     900     .03    .025            TRAP      20       6
              *

1300          KK   CP8NC
```

```
1301          KM        ADD HYDROGRAPHS AT CP8NC.
1302          HC       3
              *

1303          KK   SR8NC
1304          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NC.
1305          RS       1    STOR        0        0
1306          SV       0    .404    2.444    3.13    3.979
1307          SQ       0      10       14      151     1004
1308          SE    1771    1775     1780     1781     1782
              *

1309          KK     R9N
1310          KM        ROUTE FLOW FROM CP8N TO CP9N.
1311          RS       1    FLOW
1312          RC    .025    .025     .025     1150     .025
1313          RX       0       8       13       17       22       26       31       39
1314          RY       4       2        2        0        0        2        2        4
              *
1                                          HEC-1 INPUT                                                    PAGE 38

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

1315          KK   SUB9N
1316          KM        RUNOFF FROM SUBBASIN 9N.
1317          BA    .055
1318          LS              77       28
1319          UK     100    .008      .15      100
1320          RK    1700     .01     .018             TRAP       50       20
              *

1321          KK    CP9N
1322          KM        ADD HYDROGRAPHS AT CP9N
1323          HC       2
              *

1324          KK    R10B
1325          KM        ROUTE FLOW FROM CP9N TO CP10B.
1326          RS       1    FLOW
1327          RC     .03     .03      .03      400      .02
1328          RX       0       8       16       24       29       37       45       53
1329          RY       6       4        2        0        0        2        4        6
              *

1330          KK  SUB10B
1331          KM        RUNOFF FROM SUBBASIN 10B.
1332          BA    .028
1333          LS              77       42
1334          UK     100    .015      .15      100
1335          RK     350    .008     .018             TRAP       50       20
1336          RK     600    .008     .025             TRAP       10        4
              *

1337          KK   CP10B
1338          KM        ADD HYDROGRAPHS AT CP10B
1339          HC       2
              *

1340          KK   R11NA
1341          KM        ROUTE FLOW FROM CP10B TO CP11NA.
1342          RS       1    FLOW
1343          RC     .03     .03      .03      200      .04
1344          RX       0       8       16       24       29       37       45       53
1345          RY       6       4        2        0        0        2        4        6
              *

1346          KK  UB11NA
1347          KM        RUNOFF FROM SUBBASIN 11NA.
1348          BA   .0076
1349          LS              81        0
1350          UK     100    .025      .15      100
1351          RK     500     .03     .025             TRAP       30        6
              *
1                                          HEC-1 INPUT                                                    PAGE 39

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

1352          KK  CP11NA
1353          KM        ADD HYDROGRAPHS AT CP11NA
1354          HC       2
              *

1355          KK  SR11NA
1356          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NA.
1357          RS       1    STOR        0        0
1358          SV       0   .0462    1.425    2.480    3.109    3.856
1359          SQ       0      10       27       27       27      237
1360          SE    1734    1735     1740     1742     1743     1744
              *

1361          KK   R11NB
1362          KM        ROUTE FLOW FROM CP11NA TO CP11NB.
1363          RS       1    FLOW
```

```
1364          RC    .025    .025    .025     250     .03
1365          RX       0      12      24      36      56      68      80      92
1366          RY       6       4       2       0       0       2       4       6
              *

1367          KK  UB11NB
1368          KM        RUNOFF FROM SUBBASIN 11NB.
1369          BA   .0078
1370          LS              81       0
1371          UK     100     .04     .15     100
1372          RK     700    .025    .025            TRAP      30       6
              *

1373          KK  CP11NB
1374          KM        ADD HYDROGRAPHS AT CP11NB
1375          HC       2
              *

1376          KK  SR11NB
1377          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NB.
1378          RS       1    STOR       0       0
1379          SV       0    1.56   2.586
1380          SQ       0      27     111
1381          SE    1732    1737    1738
              *

1382          KK   R11NC
1383          KM        ROUTE FLOW FROM CP11NB TO CP11NC.
1384          RS       1    FLOW
1385          RC    .025    .025    .025     300     .03
1386          RX       0      12      24      36      56      68      80      92
1387          RY       6       4       2       0       0       2       4       6
              *
```



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

1388          KK  UB11NC
1389          KM        RUNOFF FROM SUBBASIN 11NC.
1390          BA   .0069
1391          LS              81       0
1392          UK     100     .03     .15     100
1393          RK     650    .028    .025            TRAP      20       5
              *

1394          KK  C11NC1
1395          KM        ADD HYDROGRAPHS AT CP11NC.1
1396          HC       2
              *

1397          KK  SUB10A
1398          KM        RUNOFF FROM SUBBASIN 10A.
1399          BA    .030
1400          LS              77      42
1401          UK     100    .015     .15     100
1402          RK     350    .008    .018            TRAP      50      20
1403          RK     800    .008    .025            TRAP      10       4
              *

1404          KK   R12NB
1405          KM        ROUTE FLOW FROM CP10A TO CP12NB.
1406          RS       1    FLOW
1407          RC    .025    .025    .025     400     .03
1408          RX       0      12      24      36      46      58      70      82
1409          RY       6       4       2       0       0       2       4       6
              *

1410          KK  UB12NA
1411          KM        RUNOFF FROM SUBBASIN 12NA.
1412          BA   .0153
1413          LS              81       0
1414          UK     150    .025     .15     100
1415          RK     650    .017    .025            TRAP      30       6
              *

1416          KK  SR12NA
1417          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB1NA.
1418          RS       1    STOR       0       0
1419          SV       0    2.16   3.426   5.071
1420          SQ       0       1       2     142
1421          SE    1741    1745    1746    1747
              *

1422          KK   R12NA
1423          KM        ROUTE FLOW FROM CP12NA TO CP12NB.
1424          RS       1    FLOW
1425          RC    .025    .025    .025     550    .025
1426          RX       0      12      24      36      46      58      70      82
1427          RY       6       4       2       0       0       2       4       6
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
1428          KK  UB12NB
1429          KM        RUNOFF FROM SUBBASIN 12NB.
1430          BA   .0157
1431          LS              81       0
1432          UK     150    .025     .15     100
1433          RK     650    .017    .025            TRAP      30       6
              *

1434          KK  CP12NB
1435          KM        ADD 3 HYDROGRAPHS AT CP12NB
1436          HC       3
              *

1437          KK  SR12NB
1438          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB12NB.
1439          RS       1    STOR       0       0
1440          SV       0    .922    4.24    7.53
1441          SQ       0       2       2     142
1442          SE    1741    1745    1746    1747
              *

1443          KK  R11NC2
1444          KM        ROUTE FLOW FROM CP12NA TO CP11NC.
1445          RS       1    FLOW
1446          RC    .025    .025    .025     550     .01
1447          RX       0      12      24      36      46      58      70      82
1448          RY       6       4       2       0       0       2       4       6
              *

1449          KK  CP11NC
1450          KM        ADD HYDROGRAPHS  AT CP11NC
1451          HC       2
              *

1452          KK  SR11NC
1453          KM        ROUTE FLOW THROUGH RETENTION BASIN RT11NC.  18" PIPE OUTFLOW WILL
1454          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1455          RS       1    STOR       0       0                                  *
1456          SV       0   1.665   2.303   3.062
1457          SQ       0      27     111     344
1458          SE    1730    1735    1736    1737
              *

1459          KK   R16NC
1460          KM        ROUTE FLOW FROM CP11NC TO CP16NC.
1461          RS       1    FLOW
1462          RC    .035    .035   0.035     950    .025
1463          RX       0       8      13      17      22      26      31      39
1464          RY       4       2       2       0       0       2       2       4
              *
1                                          HEC-1 INPUT                                                    PAGE 42

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

1465          KK  UB16NC
1466          KM        RUNOFF FROM SUBBASIN 16NC.
1467          BA   .0337
1468          LS              77      42
1469          UK     100    .015     .15     100
1470          RK    1600    .015    .022            TRAP      50      20
              *

1471          KK  CP16NC
1472          KM        ADD HYDROGRAPHS  AT CP16NC
1473          HC       2
              *

1474          KK  R16NC1
1475          KM        ROUTE FLOW FROM CP16NC TO CP16NC1.
1476          RS       1    FLOW
1477          RC     .03     .03     .03     550    .013
1478          RX       0      16      26      34      44      58      68      86
1479          RY       6       2       2       0       0       2       2       6
              *

1480          KK  C16NC1
1481          KM        ADD HYDROGRAPHS  AT CP16NC1.
1482          HC       2
              *

1483          KK   R15N1
1484          KM        ROUTE FLOW FROM CP16NC1 TO CP15N1.
1485          RS       1    FLOW
1486          RC    .035    .035    .035     600    .013
1487          RX       0      16      26      34      54      68      78      96
1488          RY       6       2       2       0       0       2       2       6
              *

1489          KK     PC2
1490          KM        RUNOFF FROM SUBBASIN PC2.
1491          BA    .054
1492          LS              77      10
1493          UK     100    .015     .15     100
```

```
1494          RK    2700     .01     .03            TRAP      50       4
              *

1495          KK  CP15N1
1496          KM        ADD HYDROGRAPHS  AT CP15N1
1497          HC       2
              *

1498          KK   SRPC2
1499          KM        STORAGE ROUTE THRU DETENTION BASINS IN POWER CORRIDOR THIS IS THE TOTAL
1500          KM        FLOW REACHING THE UPSTREAM SIDE OF THE THOMPSON PEAK PARKWAY BRIDGE
1501          RS       1    STOR       0       0
1502          SV       0    1.02    2.70    4.48     5.8     6.9
1503          SQ       0       0     150     350     550     850
1504          SE    1730    1731    1732    1733    1734    1735
              *
1                                          HEC-1 INPUT                                                PAGE 43

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

1505          KK  UB17NA
1506          KM        RUNOFF FROM SUBBASIN SUB17NA.
1507          BA  .00979
1508          LS              81       0
1509          UK     150    .025     .05     100
1510          RK     960   .0292    .025            TRAP      30      50
              *

1511          KK  SR17NA
1512          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NA.
1513          RS       1    STOR       0       0
1514          SV       0   .0078    .241    .523    1.00   1.735
1515          SQ       0       1       1       1    17.4     251
1516          SE  1755.2    1756    1758    1759    1760    1761
              *

1517          KK   R17NB
1518          KM        ROUTE FLOW FROM SR17NA TO CP17NB.
1519          RS       1    FLOW
1520          RC    0.03    0.03    0.03     280  0.0286
1521          RX       0      10      20      35      70      85      90     100
1522          RY    1757  1756.8  1756.6    1756    1756    1757    1758    1759
              *

1523          KK  UB17NB
1524          KM        RUNOFF FROM SUBBASIN SUB17NB.
1525          BA   .0111
1526          LS              81       0
1527          UK     150    .025     .05     100
1528          RK    1200   .0217    .025            TRAP      30      50
              *

1529          KK  CP17NB
1530          KM        ADD HYDROGRAPHS AT SUB17NB.
1531          HC       2
              *

1532          KK  SR17NB
1533          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NB.
1534          RS       1    STOR       0       0
1535          SV       0   .0113   .1469    .635   .9795   1.509   2.254   3.243
1536          SQ       0       1       1       1       1       1    38.2     189
1537          SE  1751.5    1752    1753    1755    1756    1757    1758    1759
              *

1538          KK    R17A
1539          KM        ROUTE FLOW FROM SR17NB TO CP17A.
1540          RS       1    FLOW
1541          RC    0.03    0.03    0.03     280   0.033
1542          RX       0      15      18      20      24      27      30      35
1543          RY    1755    1754    1753    1752    1752    1753    1754    1755
              *
1                                          HEC-1 INPUT                                                PAGE 44

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

1544          KK  SUB17A
1545          KM        RUNOFF FROM SUBBASIN SUB17A.
1546          BA  .00792
1547          LS              77      34
1548          UK      75     .03     .05     100
1549          RK    1500     .02    .025            TRAP       8       4
              *

1550          KK  CP17A1
1551          KM        ADD HYDROGRAPHS AT CP17A1.
1552          HC       2
              *

1553          KK  UB17NC
1554          KM        RUNOFF FROM SUBBASIN SUB17NC.
1555          BA  .00559
1556          LS              77      12
```

```
1557          UK      75     .03     .05     100
1558          RK     910   .0187    .025            TRAP       8       4
              *

1559          KK   CP17A
1560          KM        ADD ALL HYDROGRAPHS AT CP17A.
1561          HC       2
              *

1562          KK    R15N
1563          KM        ROUTE FLOW FROM CP17A TO CP15N.
1564          RS       1    FLOW
1565          RC    .035    .035    .035    1950    .025
1566          RX       0       8      13      17      22      26      31      39
1567          RY       4       2       2       0       0       2       2       4
              *

1568          KK  SUB15N
1569          KM        RUNOFF FROM SUBBASIN 15N.
1570          BA   .0391
1571          LS             77      68
1572          UK     100     .01     .15     100
1573          RK     400    .008    .018            TRAP      50      20
1574          RK    1700    .015    .025            TRAP      10       4
              *

1575          KK   CP15N
1576          KM        ADD HYDROGRAPHS  AT CP15N
1577          HC       2
              *

1578          KK   R15N2
1579          KM        ROUTE FLOW FROM CP15N TO CP15N1.
1580          RS       1    FLOW
1581          RC     .02     .02     .02     700    .013
1582          RX       0       8      13      17      22      26      31      39
1583          RY       6       2       2       0       0       2       2       6
              *
```



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

1584          KK  CP15N2
1585          KM        ADD HYDROGRAPHS  AT CP15N1
1586          KM        THIS IS THE INTERIM OUTFLOW DISCHARGE TO NATURAL WASH.
1587          HC       2  2.0449
              *

1588          KK   R15N2
1589          KM        ROUTE 15N2 IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CP15N2 TO THE
1590          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1591          KM
1592          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1593          RS       1    FLOW      -1
1594          RC    .035    .035    .035    2200    .013
1595          RX       0      16      26      34      64      78      88     106
1596          RY       6       2       2       0       0       2       2       6
              *

1597          KK    DPC3
1598          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1599          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1600          KM
1601          KM        RETRIEVE DIVERTED FLOW
1602          DR   BPC3T
              *

1603          KK   CPC3A
1604          KM        COMBINE CPC3A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE AT THE
1605          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1606          KM
1607          KM        COMBINE ROUTED HYDROGRAPH FROM CP15N2 WITH HYDROGRAPH FROM CPC3
1608          HC       2  2.2284
              *

1609          KK   RPC3A
1610          KM        ROUTE PC3A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC3A VIA
1611          KM        THE POWER LINE CHANNEL.
1612          KM
1613          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1614          RS       1    FLOW      -1
1615          RC    .035    .035    .035    1100    .013
1616          RX       0      16      26      34      64      78      88     106
1617          RY       6       2       2       0       0       2       2       6
              *

1618          KK    DPC4
1619          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1620          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1621          KM
1622          KM        RETRIEVE DIVERTED FLOW
1623          DR   BPC4T
              *
```

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

1624          KK   CPC4A
1625          KM        COMBINE CPC4A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE IN THE
1626          KM        POWER LINE CHANNEL
1627          KM
1628          KM        COMBINE ROUTED HYDROGRAPH FROM CPC3A WITH HYDROGRAPH FROM CPC4
1629          HC       2  3.0327
              *

1630          KK   RPC4A
1631          KM        ROUTE PC4A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC4A TO THE
1632          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI RD.
1633          KM
1634          KM        ROUTE FLOW FROM CPC4A TO CPC5.
1635          RS       1    FLOW      -1
1636          RC    .035    .035    .035    1900    .013
1637          RX       0      16      26      34      64      78      88     106
1638          RY       6       2       2       0       0       2       2       6
              *

1639          KK  DPC4AT
1640          KM        DIVERT PC4A IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1641          KM        FREEWAY EAST-BASIN VIAL THE POWER LINE CHANNEL.
1642          KM
1643          KM        DIVERT 100% OF FLOW
1644          DT  BPC4AT
1645          DI       0   10000
1646          DQ       0   10000
              *

1647          KK  SUB1-2
1648          KM        RUNOFF FROM SUB 1 AND 2, SOUTH COURSE MODEL
1649          BA   .0558
1650          LS             77      68
1651          UK    200    .010     .15     100
1652          RK   1370    .027    .015            TRAP      50      20
              *

1653          KK  GCRB18
1654          KM        RUNOFF FROM GOLF COURSE CONTRIBUTING TO RETENTION BASIN AT HOLE NO. 18
1655          KM        AND HOLE NO. 10, SOUTH COURSE
1656          BA    .012
1657          LS             81       0
1658          UK    200    .025     .15     100
1659          RK    300    .016    .025            TRAP      10       4
              *

1660          KK  CPRET1
1661          KM        COMBINE HYDROGRAPHS AT RETENTION BASINS ON HOLE 18 & 10
1662          HC       2
              *
```



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

1663          KK   SR18S
1664          KM        STORAGE ROUTE THRU RETENTION BASIN AT HOLE 18, SOUTH COURSE
1665          RS       1    STOR       0       0
1666          SV       0  1.7635  5.7722  12.174  21.337  28.849  30.151      32
1667          SE    1725    1730    1735    1740    1745    1748    1749    1750
1668          SQ       0       0       0       0       0      42     386     900
              *

1669          KK   SUB5S
1670          KM        RUNOFF FROM SUB 5S
1671          BA   .0263
1672          LS             77      31
1673          UK     100    .010     .15     100
1674          RK    1280    .007    .015            TRAP      50      20
              *

1675          KK  GC1216
1676          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 12, 16, AND 17
1677          BA   .0365
1678          LS             81       0
1679          UK     200    .025     .15     100
1680          RK    2200    .024    .025            TRAP      10       4
              *

1681          KK  GC1415
1682          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 13, 14, 15 AND RETENTION
1683          BA    .045
1684          LS             81       0
1685          UK     200    .025     .15     100
1686          RK    1300    .022    .025            TRAP      10       4
              *

1687          KK   SUB6S
1688          KM        RUNOFF FROM SUB BASIN 6, SOUTH COURSE
1689          BA    .021
1690          LS             77      42
```

```
1691          UK    100    .010     .15     100
1692          RK   2150    .013    .025            TRAP      50      20
              *

1693          KK   SUB7S
1694          KM        RUNOFF FROM SUB BASIN 7, SOUTH COURSE
1695          BA    .027
1696          LS              77      42
1697          UK    100    .010     .15     100
1698          RK   2080    .023    .025            TRAP      50      20
              *

1699          KK  CPRET2
1700          KM        COMBINE HYDROGRAPHS AT RETENTION BASIN 2, SOUTH COURSE
1701          HC       5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1702          KK  SRRET2
1703          KM        STORAGE THRU RETENTION BASIN NO. 2, SOUTH COURSE
1704          RS       1    STOR       0       0
1705          SV       0    .617   3.474   9.858  20.063  35.353  52.685  57.749      62
1706          SE    1670    1675    1680    1685    1690    1695    1699    1700    1701
1707          SQ       0       0       0       0       0       0      32     386     594
              *
              *       NO FLOW RELEASED FROM RETENTION BASIN
              *

1708          KK   CLEAR
1709          KM        THIS OPERATION IS ADDED BY GVSCE
1710          KM
1711          KM        CLEAR HYDROGRAPHS FROM THE STACK
1712          HC       2
              *

1713          KK   SUB8S
1714          KM        RUNOFF FROM SUB BASIN 8, SOUTH COURSE
1715          BA   .0256
1716          LS              77      42
1717          UK    100    .010     .15     100
1718          RK   1600    .015    .025            TRAP      50      20
              *

1719          KK   RGC36
1720          KM        ROUTE SUB8S TO CPGC36
1721          RS       1    FLOW
1722          RC    .055    .045    .055     850     .02
1723          RX       0      16      26      30      40      44      54      70
1724          RY       6       2       2       0       0       2       2       6
              *

1725          KK    GC36
1726          KM        RUNOFF FROM SOUTH COURSE HOLES 3, 6, AND NORTH HALF OF HOLE 4.
1727          BA   .0406
1728          LS              81       0
1729          UK    200    .025     .15     100
1730          RK   2350    .015    .035            TRAP      10       4
              *

1731          KK  C1GC36
1732          KM        COMBINE SUBS 8 AND GC36
1733          HC       2
              *

1734          KK   SUB9S
1735          KM        RUNOFF FROM SUB BASIN 9, SOUTH COURSE
1736          BA    .021
1737          LS              77      53
1738          UK    100    .010     .15     100
1739          RK   1100    .013    .025            TRAP      50      20
              *
1                                        HEC-1 INPUT                                                PAGE 49

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


1740          KK     R9S
1741          KM        ROUTE SUB9S TO CPGC36
1742          RS       1    FLOW
1743          RC    .035    .035    .035     500     .02
1744          RX       0       8      12      16      18      22      26      30
1745          RY       6       4       3       2       2       3       4       6
              *

1746          KK  CPGC36
1747          KM        COMBINE SUBS 8 AND 9 SOUTH AND GC36
1748          HC       2
              *

1749          KK  SRGC36
1750          KM        STORAGE THRU DETENTION BASIN ON GC36
1751          RS       1    STOR       0       0
```

```
1752          SV       0    0.85     1.0
1753          SE    1664    1668    1669
1754          SQ       0      20     205
              *

1755          KK   SUB7A
1756          KM        RUNOFF FROM SUB7A, SOUTH COURSE EAST SIDE ADJACENT TO PIMA ROAD
1757          BA   .0092
1758          LS              77      42
1759          UK     100    .025     .15     100
1760          RK     950    .015    .025            TRAP      50      20
              *

1761          KK    SR7A
1762          KM        STORAGE THRU DETENTION BASIN ON SUB7A
1763          RS       1    STOR       0       0
1764          SV       0     .68      .8
1765          SE    1700    1703    1704
1766          SQ       0      10     150
              *

1767          KK    R10S
1768          KM        ROUTE FLOW FROM CP7A TO CP10S
1769          RS       1    FLOW
1770          RC    .035    .035    .035    1400    .015
1771          RX       0       8      12      16      18      22      26      30
1772          RY       6       4       3       2       2       3       4       6
              *

1773          KK  SUB10S
1774          KM        RUNOFF FROM SUB BASIN 10, SOUTH COURSE
1775          BA   .0248
1776          LS              77      53
1777          UK     100    .010     .15     100
1778          RK    1150    .020    .025            TRAP      50      20
              *
1                                          HEC-1 INPUT                                                    PAGE 50

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

1779          KK   CP10S
1780          KM        COMBINE HYDROGRAPHS AT CP10 SOUTH COURSE
1781          HC       2
              *

1782          KK  SUB11S
1783          KM        RUNOFF FROM SUB11, SOUTH COURSE
1784          BA   .0234
1785          LS              77      68
1786          UK     100    .015    .018     100
1787          RK    1050    .015    .025            TRAP     100      20
              *

1788          KK    R11S
1789          KM        ROUTE 11S IS ADDED BY GVSCE TO ROUTE THE RUNOFF FROM SUB11S TO THE
1790          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI DR ALONG HUALAPAI DR.
1791          KM
1792          KM        ROUTE FLOW FROM SUB11S TO CPC5.
1793          RS       1    FLOW      -1
1794          RC    .035    .035    .035     900    .015
1795          RX       0       8      12      16      18      22      26      30
1796          RY       6       4       3       2       2       3       4       6
              *

1797          KK   C10SA
1798          KM        COMBINE 10SA IS ADDED BY GVSCE
1799          KM
1800          KM        COMBINE ROUTED HYDROGRAPH FROM 11S WITH HYDROGRAPH FROM CP10S
1801          HC       2
              *

1802          KK   R10SA
1803          KM        ROUTE 10SA IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1804          KM        FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1805          KM
1806          KM        ROUTE FLOW FROM C10SAS TO CPC5.
1807          RS       1    FLOW      -1
1808          RC    .035    .035    .035     900    .015
1809          RX       0       8      12      16      18      22      26      30
1810          RY       6       4       3       2       2       3       4       6
              *

1811          KK    GC45
1812          KM        RUNOFF FROM SOUTH COURSE HOLES 4 AND 5
1813          BA   .0127
1814          LS              81       0
1815          UK     200    .015    .025     100
1816          RK     550    .015    .035            TRAP      10       4
              *
1                                          HEC-1 INPUT                                                    PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1817          KK   CGC45
1818          KM        COMBINE CGC45 IS ADDED BY GVSCE
1819          KM
1820          KM        COMBINE ROUTED HYDROGRAPH FROM 10SA WITH RUNOFF FROM GC45
1821          HC       2
              *

1822          KK     PC5
1823          KM        PC5 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1824          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1825          KM
1826          KM        RUNOFF FROM SUBBASIN PC5.
1827          BA  0.0375
1828          LS              77       0
1829          UK     300     .015     .15     100
1830          RK    1900      .01     .03            TRAP      30       4
              *

1831          KK   DPC4A
1832          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1833          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1834          KM
1835          KM        RETRIEVE DIVERTED FLOW
1836          DR  BPC4AT
              *

1837          KK    CPC5
1838          KM        COMBINE PC5 IS ADDED BY GVSCE TO ESTIMATE THE TOTAL FLOW IN THE POWER
1839          KM        LINE CHANNEL AT THE HUALAPAI CROSSING.  THE COMBINED AREA DOES NOT
1840          KM        INCLUDE 0.2236 SQUARE MILES OF AREA DRAINING TO RETENTION BASINS.
1841          KM
1842          KM        COMBINE ROUTED HYDROGRAPH FROM C10SA AND CPC4A WITH HYDROGRAPHS FROM
1843          KM        CGC45, SRGC36 AND PC5
1844          HC       5  3.0039
              *
              *     *******************  END GRAYHAWK WATERSHED  ********************
              *

1845          KK     RC5
1846          KM       ROUTE CPC5 THROUGH SUBBASIN CN5C TO PIMA FREEWAY EAST-BASIN
1847          RS       1    FLOW      -1
1848          RC    .035    .035    .035    2000    .013
1849          RX       0      16      26      34      64      78      88     106
1850          RY       6       2       2       0       0       2       2       6
              *

1851          KK   SCN5D
1852          KM     RUNOFF FROM SUBBASIN CN5D
1853          BA  0.0499
1854          LS              74       0
1855          UK     100   0.025    0.13     100
1856          RK    3100   0.017    0.04            TRAP       0      15
              *
1                                          HEC-1 INPUT                                                    PAGE 52

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

1857          KK    CN5D
1858          KM        COMBINE ROUTED HYDROGRAPH FROM CPC5 W/RUNOFF FROM SCN5D
1859          HC       2
              *

1860          KK     D52
1861          KM     BRING BACK DIVERTED HYDROGRAPH FROM R52
1862          DR    B52T
              *

1863          KK    S53A
1864          KM     RUNOFF FROM SUBBASIN 53A
1865          BA  0.1794
1866          LS              74      11
1867          UK     300   0.022    0.13     100
1868          RK    1475   0.026   0.045  0.0111    TRAP       3       5
1869          RK    1750   0.021    0.04            TRAP      25       5
              *

1870          KK     C53
1871          KM     COMBINE ROUTED HYDROGRAPH FROM FROM C52 WITH RUNOFF FROM SUBBASIN 53A
1872          HC       2  3.0819
              *
              *    R53
              *   ****  TOO SHORT TO ROUTE  ****
              *

1873          KK   S53A1
1874          KM     RUNOFF FROM SUBBASIN 53A1
1875          BA  0.3376
1876          LS              74      12              74      30
1877          UK     300   0.022    0.13      70
1878          UK     150   0.027    0.13      30
1879          RK    1250   0.023   0.045  0.0087    TRAP       4       5
1880          RK    5050   0.017    0.04            TRAP      35       5
              *
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1881          KK    C53A
1882          KM     COMBINE ROUTED HYDROGRAPH FROM C53 WITH RUNOFF FROM SUBBASSIN 53A1
1883          HC       2
              *

1884          KK   SCN6B
1885          KM     RUNOFF FROM SUBBASIN CN6B (WATER CAMPUS)
1886          KM      TOTAL AREA = 0.0542 sm, 0.0022 sm OF THAT IS NON-CONTRIBUTING
1887          BA  0.0520
1888          LS              74       80              74        0
1889          UK     150    0.01     0.15       70
1890          UK     100   0.025     0.13       30
1891          RK     720    0.02     0.03   0.0084    TRAP        5       10
1892          RK     700    0.01    0.045   0.0050    TRAP        0       10
1893          RK     440   0.009    0.035             TRAP        6        3
              *
1                                          HEC-1 INPUT                                                    PAGE 53

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

1894          KK   SCN6D
1895          KM     RUNOFF FROM SUBBASIN CN6D
1896          KM      TOTAL AREA = 0.0398 sm, 0.0029 sm OF THAT IS NON-CONTRIBUTING
1897          BA  0.0369
1898          LS              74        3
1899          UK     100   0.025     0.13      100
1900          RK    1000   0.017     0.04             TRAP        0       15
              *

1901          KK    CP6D
1902          KM     COMBINE HYDROGRAPHS FROM C53A W/RUNOFF FROM SCN6D
1903          HC       3
              *

1904          KK   SCN6C
1905          KM     RUNOFF FROM SUBBASIN CN6C (CAP TREATMENT PLANT AND WATER CAMPUS)
1906          KM      TOTAL AREA = 0.1526 sm, 0.0138 sm OF THAT IS NON-CONTRIBUTING
1907          BA  0.1388
1908          LS              74       80              74        0
1909          UK     150    0.01     0.15       50
1910          UK     100   0.025     0.13       50
1911          RK    1500    0.01     0.03   0.0123    TRAP        5       10
1912          RK     700   0.017     0.04             TRAP        0       15
              *

1913          KK    CP6C
1914          KM        COMBINE HYDROGRAPH FROM CP6D W/RUNOFF FROM SCN6C
1915          HC       2
              *

1916          KK    CP5D
1917          KM        COMBINE HYDROGRAPHS FROM CP6C AND CP5D
1918          HC       2
              *

1919          KK   SCN5C
1920          KM     RUNOFF FROM SUBBASIN CN5C
1921          BA  0.1904
1922          LS              74        0
1923          UK     150   0.020     0.13      100
1924          RK    3700  0.0176     0.04             TRAP        0       15
              *

1925          KK   SCN6E
1926          KM     RUNOFF FROM SUBBASIN CN6E
1927          BA  0.0427
1928          LS              74        5
1929          UK      50    0.01     0.13      100
1930          RK    3200   0.002    0.025             TRAP        0       50
              *
1                                          HEC-1 INPUT                                                    PAGE 54

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

1931          KK  EAST-I
1932          KM     COMBINE HYDROGRAPH FROM CP5D WITH W/RUNOFF FROM SCN5C AND SCN6E
1933          HC       3
              *

1934          KK  EAST-O
1935          KM     PIMA FREEWAY BASIN EAST LOCATED NORTH AND EAST OF HAYDEN ROAD T.I.
1936          KM     (2) 96" OUTLET CONDUIT
1937          KM        STAGE-DISCHARGE RATING CURVE REFLECTS NO CLOGGING OF THE TRASHRACK.
1938          KM        9 ACRE-FEET OF STORAGE FOR SEDIMENTAION
1939          KM
1940          RS       1    STOR      -1        0
1941          SV       0    0.35    1.11     3.38   12.19   24.00   36.81   43.59   50.74   58.38
1942          SV   66.49   74.88   83.50    92.36  101.45  110.78  120.36  130.25  140.48  145.06
1943          SQ       0      67     130      291     540     833    1094    1208    1311    1406
1944          SQ    1497    1577    1658     1732    1802    1873    1938    2001    2064    2096
1945          SE  1589.9    1591    1592     1594    1596    1598    1600    1601    1602    1603
1946          SE    1604    1605    1606     1607    1608    1609    1610    1611    1612  1612.5
              *
```

```
          1947          ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   25       S51.1
                V
                V
   34      DVDB-O
                .
                .
   49           .-------->  B51.1T
   47      D51.1T
                .
                .
   52           .        52D4
                .           V
                .           V
   58           .       52D4R
                .           .
                .           .
   61           .           .       52D4B
                .           .           .
                .           .           .
   67           .      52D5C1............
                .           .
                .           .
   70           .           .       52D5A
                .           .           V
                .           .           V
   76           .           .      52D5AR
                .           .           .
                .           .           .
   79           .      52D5C2............
                .           V
                .           V
   82           .       52D5R
                .           .
                .           .
   85           .           .        52C3
                .           .           V
                .           .           V
   91           .           .       52C3R
                .           .           .
                .           .           .
   94           .           .           .       52C3B
                .           .           .           .
                .           .           .           .
  100           .           .      2C3BC1............
                .           .           .
                .           .           .
  103           .      2C3BC2............
                .           V
                .           V
  106           .      52C3BR
                .           .
                .           .
  109           .           .         51C
                .           .           .
                .           .           .
  119           .           .           .-------->  51C1DV
  117           .           .       51C1D
                .           .           V
                .           .           V
  122           .           .       51C1R
                .           .           .
                .           .           .
  125           .           .           .        52C1
                .           .           .           .
                .           .           .           .
  131           .           .       52C1C............
                .           .           V
                .           .           V
  134           .           .       52C1R
                .           .           .
                .           .           .
  137           .           .           .       52C2A
                .           .           .           .
                .           .           .           .
  143           .           .      52C2AC............
                .           .           .
                .           .           .
  146           .           .           .       52C2B
                .           .           .           .
                .           .           .           .
  152           .           .      52C2BC............
                .           .           V
                .           .           V
  155           .           .      52C2BR
                .           .           .
                .           .           .
  158           .           .           .       52C2C
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                .          .          .          .
                .          .          .          .
164             .          .     52C2CC...........
                .          .          V
                .          .          V
167             .          .      52C2R
                .          .          .
                .          .          .
170             .          .          .       52C4
                .          .          .          .
                .          .          .          .
176             .          .     52C4C1...........
                .          .          .
                .          .          .
179             .     52C4C2...........
                .          V
                .          V
182             .      52C4R
                .          .
                .          .
185             .          .      52C13
                .          .          .
                .          .          .
193             .          .          .-------> STORM
191             .          .     2C13DV
                .          .          .
                .          .          .
196             .          .          .      52C15
                .          .          .          .
                .          .          .          .
202             .          .     2C15C1...........
                .          .          .
                .          .          .
205             .     2C15C2...........
                .          V
                .          V
208             .     52C15R
                .          .
                .          .
211             .          .     52C14A
                .          .          .
                .          .          .
217             .     2C14AC...........
                .          V
                .          V
220             .     2C14AR
                .          .
                .          .
225             .          .          .<------- 51C1DV
223             .          .     51C1DV
                .          .          .
                .          .          .
228             .          .          .-------> 51C2DV
226             .          .      51C2D
                .          .          V
                .          .          V
231             .          .      51C2R
                .          .          .
                .          .          .
234             .          .          .       52C5
                .          .          .          .
                .          .          .          .
240             .          .      52C5C...........
                .          .          V
                .          .          V
243             .          .      52C5R
                .          .          .
                .          .          .
246             .          .          .       52C6
                .          .          .          .
                .          .          .          .
252             .          .      52C6C...........
                .          .          V
                .          .          V
255             .          .      52C6R
                .          .          .
                .          .          .
260             .          .          .          .<------- 51C2DV
258             .          .          .     51C2DV
                .          .          .          V
                .          .          .          V
261             .          .          .      51C3R
                .          .          .          .
                .          .          .          .
264             .          .          .          .        51B
                .          .          .          .          .
                .          .          .          .          .
274             .          .          .          .          .-------> 51B1DV
272             .          .          .          .      51B1D
                .          .          .          .          V
                .          .          .          .          V
277             .          .          .          .      51B1R
                .          .          .          .          .
                .          .          .          .          .
280             .          .          .          .          .       52C7
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                .         .         .         .         .         .
                .         .         .         .         .         .
286             .         .         .     52C7C.......................
                .         .         .         V
                .         .         .         V
289             .         .         .     52C7R
                .         .         .         .
                .         .         .         .
294             .         .         .         .         .<-------  51B1DV
292             .         .         .         .    51B1DV
                .         .         .         .         .
                .         .         .         .         .
297             .         .         .         .         .-------> 51B2DV
295             .         .         .         .     51B2D
                .         .         .         .         V
                .         .         .         .         V
300             .         .         .         .     51B2R
                .         .         .         .         .
                .         .         .         .         .
303             .         .         .         .         .       52C8
                .         .         .         .         .         .
                .         .         .         .         .         .
309             .         .         .         .     52C8C............
                .         .         .         .         V
                .         .         .         .         V
312             .         .         .         .     52C8R
                .         .         .         .         .
                .         .         .         .         .
315             .         .         .     52C9C1............
                .         .         .         V
                .         .         .         V
318             .         .         .     52C9R1
                .         .         .         .
                .         .         .         .
321             .         .         .         .       52C9
                .         .         .         .         .
                .         .         .         .         .
327             .         .         .     52C9C2............
                .         .         .         V
                .         .         .         V
330             .         .         .     52C9R2
                .         .         .         .
                .         .         .         .
333             .         .   2C10C1............
                .         .       V
                .         .       V
336             .         .   2C10R1
                .         .       .
                .         .       .
339             .         .         .     52C10
                .         .         .         .
                .         .         .         .
345             .         .   2C10C2............
                .         .       .
                .         .       .
348             .         .         .     52C11
                .         .         .         V
                .         .         .         V
354             .         .         .     2C11R1
                .         .         .         .
                .         .         .         .
359             .         .         .         .         .<-------   STORM
357             .         .         .         .    52C13D
                .         .         .         .         .
                .         .         .         .         .
360             .         .         .     52C11C............
                .         .         .         V
                .         .         .         V
363             .         .         .     2C11CR
                .         .         .         .
                .         .         .         .
366             .         .   2C11C2............
                .         .       V
                .         .       V
369             .         .   2C11R2
                .         .       .
                .         .       .
372             .         .         .     52C12
                .         .         .         .
                .         .         .         .
378             .         .   52C12C............
                .         .       V
                .         .       V
381             .         .   52C12R
                .         .       .
                .         .       .
384             .         .         .     52C14B
                .         .         .         .
                .         .         .         .
390             .         .   C14BC1............
                .         .       .
                .         .       .
393             .   C14BC2............
                .       V
                .       V
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396          .      52C14R
             .          .
             .          .
401          .          .          .<-------  51B2DV
399          .          .     51B2DV
             .          .          .
             .          .          .
404          .          .          .------->  51B3DV
402          .          .      51B3D
             .          .          V
             .          .          V
407          .          .      51B3R
             .          .          .
             .          .          .
410          .          .          .        52B1
             .          .          .           .
             .          .          .           .
416          .          .      52B1C............
             .          .          V
             .          .          V
419          .          .      52B1R
             .          .          .
             .          .          .
424          .          .          .           .<-------  51B3DV
422          .          .          .     51B3DV
             .          .          .           .
             .          .          .           .
427          .          .          .           .------->  51B4DV
425          .          .          .      51B4D
             .          .          .          V
             .          .          .          V
430          .          .          .     51B4R1
             .          .          .           .
             .          .          .           .
433          .          .     52B2C1............
             .          .          V
             .          .          V
436          .          .     52B2R1
             .          .          .
             .          .          .
439          .          .          .        52B2
             .          .          .           .
             .          .          .           .
445          .          .     52B2C2............
             .          .          V
             .          .          V
448          .          .     52B2R2
             .          .          V
             .          .          V
451          .          .     52B3R1
             .          .          .
             .          .          .
454          .          .          .        52B3
             .          .          .           .
             .          .          .           .
460          .          .     52B3C2............
             .          .          V
             .          .          V
463          .          .     52B3R2
             .          .          .
             .          .          .
466          .          .          .        52B4
             .          .          .           .
             .          .          .           .
472          .          .      52B4C............
             .          .          V
             .          .          V
475          .          .      52B4R
             .          .          .
             .          .          .
478          .          .          .        52B5
             .          .          .           .
             .          .          .           .
484          .          .     52B5C1............
             .          .          .
             .          .          .
487          .      52B5C2............
             .          V
             .          V
490          .      52B5R
             .          .
             .          .
495          .          .          .<-------  51B4DV
493          .          .     51B4DV
             .          .          .
             .          .          .
498          .          .          .------->  51B5DV
496          .          .      51B5D
             .          .          V
             .          .          V
501          .          .      51B5R
             .          .          .
             .          .          .
506          .          .          .           .<-------  51B5DV
504          .          .          .     51B5DV
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509                                  .-------> 51B6DV
507                            51B6D
                                  V
                                  V
512                            51B6R
517                                          .<-------  51B6DV
515                                     51B6DV
520                                          .-------> 51B7DV
518                                      51B7D
                                            V
                                            V
523                                     51B7R1
526                        51B7C.......................
                              V
                              V
529                        51B7R2
532                                   52B6
538                        52B6C............
                              V
                              V
541                        52B6R
544                                   52B7
550                        52B7C1...........
553                    52B7C2............
556                          52A2
562                    52A2C2............
567                                .<-------  51B7DV
565                        51B7DV
                              V
                              V
568                        51B8R
571                                   52A1
577                        52A1C............
582                                          .<-------  B51.1T
580                                   D51.1
583                          C52A............
587                      C52............
                            V
                            V
591                      R52
598                        .------->    B52T
596                     D52T
601                CLEAR............
604                       1B
                           V
                           V
611                    37AE1
618                        SUB5N
625                     CP5N............
                           V
                           V
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628          .      RET5N
             .          V
             .          V
635          .      R6N.1
             .          .
             .          .
643          .          .      SUB6B
             .          .          V
             .          .          V
649          .          .       SR6B
             .          .          .
             .          .          .
655          .      CP6.1............
             .          .
             .          .
658          .          .      SUB1N
             .          .          V
             .          .          V
664          .          .       R2NA
             .          .          .
             .          .          .
670          .          .          .      SUB2NA
             .          .          .          .
             .          .          .          .
676          .          .      CP2NA............
             .          .          V
             .          .          V
679          .          .      SR2NA
             .          .          V
             .          .          V
685          .          .       R2NB
             .          .          .
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691          .          .          .      SUB2NB
             .          .          .          .
             .          .          .          .
697          .          .      CP2NB............
             .          .          V
             .          .          V
700          .          .      SR2NB
             .          .          V
             .          .          V
706          .          .      RCP4N
             .          .          .
             .          .          .
712          .          .          .      SUB6N
             .          .          .          V
             .          .          .          V
718          .          .          .      RET6N
             .          .          .          V
             .          .          .          V
724          .          .          .      RCP4N1
             .          .          .          .
             .          .          .          .
730          .          .     CP4N.1............
             .          .          .
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733          .          .          .      SUB3N
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             .          .          .          V
739          .          .          .      RET3N
             .          .          .          V
             .          .          .          V
746          .          .          .       R4N
             .          .          .          .
             .          .          .          .
752          .          .     CP4N.2............
             .          .          .
             .          .          .
755          .          .          .      SUB4N
             .          .          .          .
             .          .          .          .
761          .          .       CP4N............
             .          .          V
             .          .          V
764          .          .        R6N
             .          .          .
             .          .          .
770          .          .          .      SUB6A
             .          .          .          .
             .          .          .          .
776          .          .      CP6.2............
             .          .          .
             .          .          .
779          .      CP6N............
             .          V
             .          V
782          .      RCP6N
             .          .
             .          .
788          .          .      SUB3C
             .          .          .
             .          .          .
794          .      CP3C............
             .          V
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                .          V
797             .        R3C
                .          .
                .          .
805             .          .      GC1018
                .          .          .
                .          .          .
811             .          .          .      GC1-9
                .          .          .          .
                .          .          .          .
817             .          .          .          .      SUB3S
                .          .          .          .          .
                .          .          .          .          .
823             .       CP3S..................................
                .          V
                .          V
826             .       RT3S
                .          .
                .          .
832             .          .      SUB4S
                .          .          V
                .          .          V
838             .          .       RT4S
                .          .          .
                .          .          .
844             .          .          .      GC2-8
                .          .          .          .
                .          .          .          .
850             .     1PGC28........................
                .          .
                .          .
853             .          .      SUB3D3
                .          .          .
                .          .          .
859             .     CPGC28............
                .          V
                .          V
862             .     SRGC28
                .          V
                .          V
868             .       RT7S
                .          .
                .          .
874             .          .        GC7
                .          .          .
                .          .          .
880             .       CP7S............
                .          .
                .          .
888             .          .-------->    B7ST
883             .       D7ST
                .          .
                .          .
891       CLEAR............
                .
                .
894             .     SUB3D1
                .          V
                .          V
899             .      RD1B1
                .          .
                .          .
905             .          .      SUB3B1
                .          .          .
                .          .          .
910             .      CP3B1............
                .          V
                .          V
913             .      RB13F
                .          .
                .          .
919             .          .       SUB3F
                .          .          .
                .          .          .
925             .       CP3F............
                .          .
                .          .
928             .          .      SUB3B2
                .          .          V
                .          .          V
933             .          .       RB2E1
                .          .          V
                .          .          V
939             .          .       RB2E2
                .          .          .
                .          .          .
945             .          .          .      SUB3E1
                .          .          .          .
                .          .          .          .
950             .          .      1CPE31............
                .          .          .
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953             .          .          .      SUB3D2
                .          .          .          V
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 958          .           .           .       RD2E2
              .           .           .          .
              .           .           .          .
 964          .           .           .          .      SUB3E2
              .           .           .          .          .
              .           .           .          .          .
 969          .           .           .       CP3E2............
              .           .           .          .
              .           .           .          .
 972          .           .           .          .         PC3
              .           .           .          .          .
              .           .           .          .          .
 981          .        CPC3...................................
              .           .
              .           .
 993          .           .-------->   BPC3T
 988          .       DPC3T
              .           .
              .           .
 996          .           .      SUB3E3
              .           .           .
              .           .           .
1001          .           .           .        PC4
              .           .           .          .
              .           .           .          .
1015          .           .           .          .           .<-------    B7ST
1010          .           .           .          .         D7S
              .           .           .          .          .
              .           .           .          .          .
1016          .           .        CPC4........................
              .           .           .
              .           .           .
1027          .           .           .-------->   BPC4T
1022          .           .      DPC4T
              .           .           .
              .           .           .
1030      CLEAR........................
              .
              .
1033          .        1A1
              .          V
              .          V
1040          .       R1A1
              .           .
              .           .
1046          .           .         1A2
              .           .           .
              .           .           .
1053          .        C1A............
              .          V
              .          V
1056          .       R14R
              .          V
              .          V
1063          .     RET141
              .          V
              .          V
1070          .      R14.1
              .           .
              .           .
1077          .           .      SUB13N
              .           .          V
              .           .          V
1083          .           .      R14.1
              .           .           .
              .           .           .
1089          .           .           .      SUB14N
              .           .           .          .
              .           .           .          .
1095          .       CP14........................
              .          V
              .          V
1098          .      RET14
              .          V
              .          V
1105          .      R18.1
              .           .
              .           .
1111          .           .      SUB20N
              .           .          V
              .           .          V
1117          .           .        R19
              .           .           .
              .           .           .
1123          .           .           .      SUB19N
              .           .           .          .
              .           .           .          .
1129          .           .      CP19N............
              .           .          V
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1132          .           .      R18NC
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              .           .           .
1138          .           .           .      UB18NC
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1144          .     CP18NC.......................
              .         V
              .         V
1147          .       RPC1
              .
              .
1153          .           .     UB18NA
              .           .         V
              .           .         V
1159          .           .      1RPC1
              .           .
              .           .
1165          .           .           .     UB18NB
              .           .           .         V
              .           .           .         V
1171          .           .           .      2RPC1
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              .           .           .
1177          .           .           .           .         PC1
              .           .           .           .
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1183          .           .      1CPC1........................
              .           .         V
              .           .         V
1186          .           .      SRPC1
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              .           .
1192          .       CPC1............
              .         V
              .         V
1195          .     R16NA1
              .
              .
1201          .           .     UB16NA
              .           .         V
              .           .         V
1207          .           .     R16NA1
              .           .
              .           .
1213          .     C16NA1............
              .         V
              .         V
1216          .     R16NB1
              .
              .
1222          .           .     UB16NB
              .           .         V
              .           .         V
1228          .           .     R16NB1
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              .           .
1234          .     C16NB1............
              .         V
              .         V
1237          .     R16NC1
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              .
1243          .           .      SUB7N
              .           .         V
              .           .         V
1249          .           .       R8NC
              .           .
              .           .
1255          .           .           .     SUB8NA
              .           .           .         V
              .           .           .         V
1261          .           .           .      SR8NA
              .           .           .         V
              .           .           .         V
1267          .           .           .       R8NB
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1273          .           .           .           .     SUB8NB
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1279          .           .           .      CP8NB............
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              .           .           .         V
1282          .           .           .      SR8NB
              .           .           .         V
              .           .           .         V
1288          .           .           .       R8NC
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1294          .           .           .           .     SUB8NC
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1300          .           .      CP8NC........................
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              .           .         V
1303          .           .      SR8NC
              .           .         V
              .           .         V
1309          .           .       R9N
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1315            .         .         .       SUB9N
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1321            .         .      CP9N...........
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1324            .         .      R10B
                .         .         .
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1330            .         .         .      SUB10B
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1337            .         .     CP10B...........
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1340            .         .     R11NA
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1346            .         .         .      UB11NA
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1352            .         .    CP11NA...........
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1355            .         .    SR11NA
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1361            .         .     R11NB
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1367            .         .         .      UB11NB
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1373            .         .    CP11NB...........
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1376            .         .    SR11NB
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1382            .         .     R11NC
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1388            .         .         .      UB11NC
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1394            .         .    C11NC1...........
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1397            .         .         .      SUB10A
                .         .         .         V
                .         .         .         V
1404            .         .         .      R12NB
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1410            .         .         .         .     UB12NA
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1416            .         .         .         .     SR12NA
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                .         .         .         .         V
1422            .         .         .         .      R12NA
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1428            .         .         .         .         .     UB12NB
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1434            .         .         .      CP12NB.......................
                .         .         .         V
                .         .         .         V
1437            .         .         .      SR12NB
                .         .         .         V
                .         .         .         V
1443            .         .         .      R11NC2
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                .         .         .         .
1449            .         .    CP11NC...........
                .         .         V
                .         .         V
1452            .         .    SR11NC
                .         .         V
                .         .         V
1459            .         .     R16NC
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                .         .         .
1465            .         .         .      UB16NC
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1471            .         .    CP16NC...........
                .         .         V
                .         .         V
1474            .         .    R16NC1
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1480          .      C16NC1............
              .          V
              .          V
1483          .       R15N1
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1489          .          .         PC2
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1495          .      CP15N1............
              .          V
              .          V
1498          .       SRPC2
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1505          .          .      UB17NA
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              .          .          V
1511          .          .      SR17NA
              .          .          V
              .          .          V
1517          .          .       R17NB
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1523          .          .          .      UB17NB
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              .          .          .          .
1529          .          .      CP17NB............
              .          .          V
              .          .          V
1532          .          .      SR17NB
              .          .          V
              .          .          V
1538          .          .        R17A
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1544          .          .          .      SUB17A
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1550          .          .      CP17A1............
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1553          .          .          .      UB17NC
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1559          .          .       CP17A............
              .          .          V
              .          .          V
1562          .          .        R15N
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1568          .          .          .      SUB15N
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1575          .          .       CP15N............
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              .          .          V
1578          .          .       R15N2
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1584          .      CP15N2............
              .          V
              .          V
1588          .       R15N2
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1602          .          .          .<-------   BPC3T
1597          .          .        DPC3
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1603          .       CPC3A............
              .          V
              .          V
1609          .       RPC3A
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1623          .          .          .<-------   BPC4T
1618          .          .        DPC4
              .          .          .
              .          .          .
1624          .       CPC4A............
              .          V
              .          V
1630          .       RPC4A
              .          .
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1644          .          .-------> BPC4AT
1639          .      DPC4AT
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1647          .          .      SUB1-2
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1653          .          .          .      GCRB18
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1660                CPRET1............
                       V
                       V
1663                SR18S
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1669                       SUB5S
                               .
1675                               GC1216
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1681                                       GC1415
                                               .
1687                                               SUB6S
                                                       .
1693                                                       SUB7S
                                                               .
1699                       CPRET2.......................................
                               V
                               V
1702                       SRRET2
                               .
1708                CLEAR............
                       .
1713                       SUB8S
                               V
                               V
1719                       RGC36
                               .
1725                               GC36
                                       .
1731                       C1GC36............
                               .
1734                               SUB9S
                                       V
                                       V
1740                                   R9S
                                       .
1746                       CPGC36............
                               V
                               V
1749                       SRGC36
                               .
1755                               SUB7A
                                       V
                                       V
1761                               SR7A
                                       V
                                       V
1767                               R10S
                                       .
1773                                       SUB10S
                                               .
1779                               CP10S............
                                       .
1782                                       SUB11S
                                               V
                                               V
1788                                       R11S
                                               .
1797                               C10SA............
                                       V
                                       V
1802                               R10SA
                                       .
1811                                       GC45
                                               .
1817                               CGC45............
                                       .
1822                                       PC5
                                               .
1836                                               .<-------- BPC4AT
1831                                               DPC4A
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1837          .          .        CPC5.............................................
              .          .          V
              .          .          V
1845          .          .         RC5
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1851          .          .          .       SCN5D
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              .          .          .          .
1857          .          .        CN5D............
              .          .          .
              .          .          .
1862          .          .          .           .<-------    B52T
1860          .          .          .         D52
              .          .          .          .
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1863          .          .          .          .        S53A
              .          .          .          .          .
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1870          .          .          .         C53............
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              .          .          .          .
1873          .          .          .          .       S53A1
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              .          .          .          .          .
1881          .          .          .        C53A............
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1884          .          .          .          .       SCN6B
              .          .          .          .          .
              .          .          .          .          .
1894          .          .          .          .          .       SCN6D
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              .          .          .          .          .          .
1901          .          .          .        CP6D........................
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1904          .          .          .          .       SCN6C
              .          .          .          .          .
              .          .          .          .          .
1913          .          .          .        CP6C............
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1916          .          .        CP5D............
              .          .          .
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1919          .          .          .       SCN5C
              .          .          .          .
              .          .          .          .
1925          .          .          .          .       SCN6E
              .          .          .          .          .
              .          .          .          .          .
1931          .          .      EAST-I........................
              .          .          V
              .          .          V
1934          .          .      EAST-O
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*            VERSION 4.0.1E             *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  02/25/99  TIME  08:19:28   *
*****************************************
```

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

PIMA ROAD THREE BASINS
by Stantec for the City of Scottsdale
Project: 28900082

File: EX50-24.IH1
Original: 08-07-97 mcg
Revised: 01-20-99 mcg

50-YEAR, 24-HOUR STORM
INTERIM CONDITION:
NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF
FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.

THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
DEI FILE NAME: GH23FAB.H1I
MODEL DATE: 21 MAY 96

THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
WOOD/PATEL FILE NAME: DC0721C.DAT
MODEL DATE: 4 JANUARY 96

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

   IT          HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME       0000  STARTING TIME
                        NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      4   0  ENDING DATE
                    NDTIME       1115  ENDING TIME
                     ICENT         19  CENTURY MARK

                 COMPUTATION INTERVAL    0.08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


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       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
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*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

WARNING --- ROUTED OUTFLOW (    925.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    925.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    861.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

WARNING --- ROUTED OUTFLOW (    210.) IS GREATER THAN MAXIMUM OUTFLOW (    205.) IN STORAGE-OUTFLOW TABLE

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

1
                                    RUNOFF SUMMARY
                              FLOW IN CUBIC FEET PER SECOND
                          TIME IN HOURS,  AREA IN SQUARE MILES

                                     PEAK   TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD     BASIN    MAXIMUM    TIME OF
        OPERATION        STATION     FLOW    PEAK                                         AREA     STAGE    MAX STAGE
+                                                        6-HOUR     24-HOUR     72-HOUR
        HYDROGRAPH AT
+                         S51.1     1030.   12.50        168.        50.         17.       1.13
        ROUTED TO
+                         DVDB-O     246.   13.25        168.        50.         17.       1.13
+                                                                                          1875.86     13.25
        DIVERSION TO
+                         B51.1T     246.    0.08        168.        50.         17.       1.13
        HYDROGRAPH AT
+                         D51.1T       0.    0.08          0.         0.          0.       1.13
        HYDROGRAPH AT
+                          52D4      107.   12.25         11.         3.          1.       0.07
        ROUTED TO
+                         52D4R       99.   12.25         11.         3.          1.       0.07
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+	HYDROGRAPH AT	52D4B	55.	12.17	5.	2.	1.	0.02
+	2 COMBINED AT	52D5C1	147.	12.25	17.	5.	2.	0.09
+	HYDROGRAPH AT	52D5A	64.	12.17	6.	2.	1.	0.02
+	ROUTED TO	52D5AR	61.	12.17	6.	2.	1.	0.02
+	2 COMBINED AT	52D5C2	196.	12.25	22.	7.	2.	0.12
+	ROUTED TO	52D5R	194.	12.25	22.	7.	2.	0.12
+	HYDROGRAPH AT	52C3	19.	12.08	2.	0.	0.	0.01
+	ROUTED TO	52C3R	18.	12.17	2.	0.	0.	0.01
+	HYDROGRAPH AT	52C3B	43.	12.17	4.	1.	0.	0.02
+	2 COMBINED AT	2C3BC1	61.	12.17	5.	2.	1.	0.02
+	2 COMBINED AT	2C3BC2	235.	12.17	28.	9.	3.	0.14
+	ROUTED TO	52C3BR	234.	12.25	28.	9.	3.	0.14
+	HYDROGRAPH AT	51C	110.	12.25	11.	3.	1.	0.10
+	DIVERSION TO	51C1DV	73.	12.25	8.	2.	1.	0.10
+	HYDROGRAPH AT	51C1D	36.	12.25	4.	1.	0.	0.10
+	ROUTED TO	51C1R	33.	12.33	4.	1.	0.	0.10
+	HYDROGRAPH AT	52C1	60.	12.17	5.	2.	1.	0.03
+	2 COMBINED AT	52C1C	76.	12.17	9.	3.	1.	0.13
+	ROUTED TO	52C1R	74.	12.25	9.	3.	1.	0.13
+	HYDROGRAPH AT	52C2A	32.	12.17	3.	1.	0.	0.02
+	2 COMBINED AT	52C2AC	96.	12.25	11.	3.	1.	0.15
+	HYDROGRAPH AT	52C2B	49.	12.17	4.	1.	0.	0.03
+	2 COMBINED AT	52C2BC	142.	12.17	16.	5.	2.	0.17
+	ROUTED TO	52C2BR	138.	12.25	16.	5.	2.	0.17
+	HYDROGRAPH AT	52C2C	39.	12.17	3.	1.	0.	0.01
+	2 COMBINED AT	52C2CC	161.	12.25	19.	6.	2.	0.19
+	ROUTED TO	52C2R	153.	12.25	19.	6.	2.	0.19
+	HYDROGRAPH AT	52C4	47.	12.17	4.	1.	0.	0.02
+	2 COMBINED AT	52C4C1	182.	12.25	23.	7.	2.	0.20
+	2 COMBINED AT	52C4C2	416.	12.25	50.	16.	5.	0.34
+	ROUTED TO	52C4R	407.	12.25	51.	16.	5.	0.34
+	HYDROGRAPH AT	52C13	57.	12.08	4.	1.	0.	0.02

+	DIVERSION TO	STORM	40.	12.08	4.	1.	0.	0.02
+	HYDROGRAPH AT	2C13DV	17.	12.08	0.	0.	0.	0.02
+	HYDROGRAPH AT	52C15	129.	12.17	11.	4.	1.	0.05
+	2 COMBINED AT	2C15C1	143.	12.08	12.	4.	1.	0.07
+	2 COMBINED AT	2C15C2	484.	12.25	62.	19.	6.	0.41
+	ROUTED TO	52C15R	482.	12.25	62.	19.	6.	0.41
+	HYDROGRAPH AT	52C14A	119.	12.17	10.	3.	1.	0.04
+	2 COMBINED AT	2C14AC	564.	12.17	73.	23.	8.	0.45
+	ROUTED TO	2C14AR	554.	12.25	73.	23.	8.	0.45
+	HYDROGRAPH AT	51C1DV	73.	12.25	8.	2.	1.	0.00
+	DIVERSION TO	51C2DV	20.	12.25	2.	1.	0.	0.00
+	HYDROGRAPH AT	51C2D	54.	12.25	6.	2.	1.	0.00
+	ROUTED TO	51C2R	50.	12.25	6.	2.	1.	0.00
+	HYDROGRAPH AT	52C5	35.	12.17	3.	1.	0.	0.02
+	2 COMBINED AT	52C5C	71.	12.25	8.	3.	1.	0.02
+	ROUTED TO	52C5R	70.	12.33	8.	3.	1.	0.02
+	HYDROGRAPH AT	52C6	70.	12.17	7.	2.	1.	0.04
+	2 COMBINED AT	52C6C	121.	12.25	15.	5.	2.	0.05
+	ROUTED TO	52C6R	117.	12.25	15.	5.	2.	0.05
+	HYDROGRAPH AT	51C2DV	20.	12.25	2.	1.	0.	0.00
+	ROUTED TO	51C3R	18.	12.25	2.	1.	0.	0.00
+	HYDROGRAPH AT	51B	448.	12.42	66.	20.	7.	0.57
+	DIVERSION TO	51B1DV	412.	12.42	61.	18.	6.	0.57
+	HYDROGRAPH AT	51B1D	36.	12.42	5.	2.	1.	0.57
+	ROUTED TO	51B1R	35.	12.42	5.	2.	1.	0.57
+	HYDROGRAPH AT	52C7	15.	12.08	1.	0.	0.	0.01
+	3 COMBINED AT	52C7C	53.	12.33	8.	3.	1.	0.58
+	ROUTED TO	52C7R	52.	12.42	8.	3.	1.	0.58
+	HYDROGRAPH AT	51B1DV	412.	12.42	61.	18.	6.	0.00
+	DIVERSION TO	51B2DV	346.	12.42	51.	15.	5.	0.00
+	HYDROGRAPH AT	51B2D	66.	12.42	10.	3.	1.	0.00
	ROUTED TO							

+	51B2R	64.	12.42	10.	3.	1.	0.00
+ HYDROGRAPH AT	52C8	18.	12.08	1.	0.	0.	0.01
+ 2 COMBINED AT	52C8C	69.	12.42	11.	3.	1.	0.01
+ ROUTED TO	52C8R	67.	12.42	11.	3.	1.	0.01
+ 2 COMBINED AT	52C9C1	119.	12.42	20.	6.	2.	0.59
+ ROUTED TO	52C9R1	116.	12.50	20.	6.	2.	0.59
+ HYDROGRAPH AT	52C9	151.	12.17	13.	4.	1.	0.07
+ 2 COMBINED AT	52C9C2	198.	12.17	33.	10.	3.	0.65
+ ROUTED TO	52C9R2	195.	12.25	33.	10.	3.	0.65
+ 2 COMBINED AT	2C10C1	312.	12.25	48.	15.	5.	0.71
+ ROUTED TO	2C10R1	309.	12.25	48.	15.	5.	0.71
+ HYDROGRAPH AT	52C10	25.	12.17	2.	1.	0.	0.01
+ 2 COMBINED AT	2C10C2	324.	12.25	50.	15.	5.	0.72
+ HYDROGRAPH AT	52C11	86.	12.17	8.	2.	1.	0.04
+ ROUTED TO	2C11R1	79.	12.17	8.	2.	1.	0.04
+ HYDROGRAPH AT	52C13D	40.	12.08	4.	1.	0.	0.00
+ 2 COMBINED AT	52C11C	119.	12.17	12.	4.	1.	0.04
+ ROUTED TO	2C11CR	112.	12.17	12.	4.	1.	0.04
+ 2 COMBINED AT	2C11C2	427.	12.25	62.	19.	6.	0.76
+ ROUTED TO	2C11R2	422.	12.25	62.	19.	6.	0.76
+ HYDROGRAPH AT	52C12	91.	12.08	7.	2.	1.	0.02
+ 2 COMBINED AT	52C12C	456.	12.25	68.	21.	7.	0.79
+ ROUTED TO	52C12R	449.	12.25	68.	21.	7.	0.79
+ HYDROGRAPH AT	52C14B	60.	12.08	5.	2.	1.	0.02
+ 2 COMBINED AT	C14BC1	480.	12.25	73.	22.	8.	0.81
+ 2 COMBINED AT	C14BC2	1034.	12.25	146.	45.	15.	1.26
+ ROUTED TO	52C14R	1030.	12.25	146.	45.	15.	1.26
+ HYDROGRAPH AT	51B2DV	346.	12.42	51.	15.	5.	0.00
+ DIVERSION TO	51B3DV	291.	12.42	43.	13.	4.	0.00
+ HYDROGRAPH AT	51B3D	55.	12.42	8.	2.	1.	0.00
+ ROUTED TO	51B3R	54.	12.42	8.	2.	1.	0.00
+ HYDROGRAPH AT	52B1	7.	12.08	1.	0.	0.	0.00

+	2 COMBINED AT	52B1C	56.	12.42	9.	3.	1.	0.00
+	ROUTED TO	52B1R	54.	12.42	9.	3.	1.	0.00
+	HYDROGRAPH AT	51B3DV	291.	12.42	43.	13.	4.	0.00
+	DIVERSION TO	51B4DV	239.	12.42	35.	10.	3.	0.00
+	HYDROGRAPH AT	51B4D	52.	12.42	8.	2.	1.	0.00
+	ROUTED TO	51B4R1	50.	12.42	8.	2.	1.	0.00
+	2 COMBINED AT	52B2C1	104.	12.42	16.	5.	2.	0.00
+	ROUTED TO	52B2R1	103.	12.50	16.	5.	2.	0.00
+	HYDROGRAPH AT	52B2	62.	12.17	5.	2.	1.	0.03
+	2 COMBINED AT	52B2C2	122.	12.42	22.	6.	2.	0.04
+	ROUTED TO	52B2R2	121.	12.50	22.	6.	2.	0.04
+	ROUTED TO	52B3R1	121.	12.50	22.	6.	2.	0.04
+	HYDROGRAPH AT	52B3	121.	12.17	12.	4.	1.	0.06
+	2 COMBINED AT	52B3C2	199.	12.25	33.	10.	3.	0.10
+	ROUTED TO	52B3R2	192.	12.33	33.	10.	3.	0.10
+	HYDROGRAPH AT	52B4	73.	12.17	6.	2.	1.	0.03
+	2 COMBINED AT	52B4C	235.	12.25	39.	12.	4.	0.12
+	ROUTED TO	52B4R	229.	12.25	39.	12.	4.	0.12
+	HYDROGRAPH AT	52B5	56.	12.08	5.	2.	1.	0.02
+	2 COMBINED AT	52B5C1	262.	12.25	44.	14.	5.	0.14
+	2 COMBINED AT	52B5C2	1292.	12.25	190.	59.	20.	1.40
+	ROUTED TO	52B5R	1273.	12.25	191.	59.	20.	1.40
+	HYDROGRAPH AT	51B4DV	239.	12.42	35.	10.	3.	0.00
+	DIVERSION TO	51B5DV	162.	12.42	24.	7.	2.	0.00
+	HYDROGRAPH AT	51B5D	76.	12.42	11.	3.	1.	0.00
+	ROUTED TO	51B5R	73.	12.42	11.	3.	1.	0.00
+	HYDROGRAPH AT	51B5DV	162.	12.42	24.	7.	2.	0.00
+	DIVERSION TO	51B6DV	86.	12.42	13.	4.	1.	0.00
+	HYDROGRAPH AT	51B6D	76.	12.42	11.	3.	1.	0.00
+	ROUTED TO	51B6R	74.	12.42	11.	3.	1.	0.00
+	HYDROGRAPH AT	51B6DV	86.	12.42	13.	4.	1.	0.00
+	DIVERSION TO	51B7DV	50.	12.42	7.	2.	1.	0.00

	HYDROGRAPH AT								
+		51B7D	36.	12.42	5.	2.	1.	0.00	
	ROUTED TO								
+		51B7R1	35.	12.42	5.	2.	1.	0.00	
	3 COMBINED AT								
+		51B7C	182.	12.42	28.	8.	3.	0.00	
	ROUTED TO								
+		51B7R2	180.	12.50	28.	8.	3.	0.00	
	HYDROGRAPH AT								
+		52B6	170.	12.17	15.	5.	2.	0.10	
	2 COMBINED AT								
+		52B6C	233.	12.42	43.	13.	4.	0.10	
	ROUTED TO								
+		52B6R	232.	12.50	43.	13.	4.	0.10	
	HYDROGRAPH AT								
+		52B7	250.	12.17	22.	7.	2.	0.08	
	2 COMBINED AT								
+		52B7C1	349.	12.17	64.	20.	7.	0.18	
	2 COMBINED AT								
+		52B7C2	1611.	12.25	254.	78.	26.	1.58	
	HYDROGRAPH AT								
+		52A2	211.	12.17	19.	6.	2.	0.06	
	2 COMBINED AT								
+		52A2C2	1752.	12.25	273.	84.	28.	1.64	
	HYDROGRAPH AT								
+		51B7DV	50.	12.42	7.	2.	1.	0.00	
	ROUTED TO								
+		51B8R	48.	12.50	7.	2.	1.	0.00	
	HYDROGRAPH AT								
+		52A1	287.	12.17	25.	8.	3.	0.13	
	2 COMBINED AT								
+		52A1C	289.	12.17	32.	10.	3.	0.13	
	HYDROGRAPH AT								
+		D51.1	246.	13.25	168.	50.	17.	0.00	
	2 COMBINED AT								
+		C52A	359.	12.17	198.	60.	20.	0.13	
	2 COMBINED AT								
+		C52	2101.	12.25	470.	144.	48.	1.77	
	ROUTED TO								
+		R52	2101.	12.33	470.	144.	48.	1.77	
	DIVERSION TO								
+		B52T	2101.	0.08	470.	144.	48.	1.77	
	HYDROGRAPH AT								
+		D52T	0.	0.08	0.	0.	0.	1.77	
	2 COMBINED AT								
+		CLEAR	0.	0.08	0.	0.	0.	2.90	
	HYDROGRAPH AT								
+		1B	400.	12.42	55.	16.	5.	0.36	
	ROUTED TO								
+		37AE1	400.	12.42	55.	16.	5.	0.36	
+									2.68 12.42
	HYDROGRAPH AT								
+		SUB5N	61.	12.17	5.	2.	1.	0.03	
	2 COMBINED AT								
+		CP5N	422.	12.42	60.	18.	6.	0.39	
	ROUTED TO								
+		RET5N	396.	12.50	56.	18.	6.	0.39	
+									1807.43 12.50
	ROUTED TO								
+		R6N.1	353.	12.58	56.	18.	6.	0.39	
+									2.56 12.58
	HYDROGRAPH AT								
+		SUB6B	65.	12.17	6.	2.	1.	0.03	
	ROUTED TO								

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+                    SR6B      48.  12.25      6.      2.      1.    0.03
+                                                                          1774.35    12.25

     2 COMBINED AT
+                    CP6.1    370.  12.58     62.     20.      7.    0.42

     HYDROGRAPH AT
+                    SUB1N     40.  12.17      3.      1.      0.    0.02

     ROUTED TO
+                    R2NA      40.  12.17      3.      1.      0.    0.02
+                                                                             0.94    12.17

     HYDROGRAPH AT
+                    SUB2NA    30.  12.17      3.      1.      0.    0.01

     2 COMBINED AT
+                    CP2NA     70.  12.17      6.      2.      1.    0.03

     ROUTED TO
+                    SR2NA     64.  12.25      5.      1.      0.    0.03
+                                                                          1775.40    12.25

     ROUTED TO
+                    R2NB      53.  12.33      5.      1.      0.    0.03
+                                                                             1.26    12.33

     HYDROGRAPH AT
+                    SUB2NB    79.  12.17      7.      2.      1.    0.03

     2 COMBINED AT
+                    CP2NB     98.  12.25     12.      4.      1.    0.06

     ROUTED TO
+                    SR2NB     18.  12.83     11.      4.      1.    0.06
+                                                                          1804.01    12.83

     ROUTED TO
+                    RCP4N     18.  12.83     11.      4.      1.    0.06
+                                                                             0.65    12.83

     HYDROGRAPH AT
+                    SUB6N     99.  12.17      9.      2.      1.    0.05

     ROUTED TO
+                    RET6N      0.   0.08      0.      0.      0.    0.05
+                                                                          1785.06    60.25

     ROUTED TO
+                    RCP4N1     0.   0.08      0.      0.      0.    0.05

     2 COMBINED AT
+                    CP4N.1    18.  12.83     11.      4.      1.    0.11

     HYDROGRAPH AT
+                    SUB3N     59.  12.17      5.      1.      0.    0.03

     ROUTED TO
+                    RET3N      4.  13.08      3.      1.      0.    0.03
+                                                                          1794.85    13.08

     ROUTED TO
+                    R4N        4.  13.17      3.      1.      0.    0.03
+                                                                             0.28    13.17

     2 COMBINED AT
+                    CP4N.2    21.  12.83     14.      5.      2.    0.14

     HYDROGRAPH AT
+                    SUB4N     68.  12.17      6.      2.      1.    0.03

     2 COMBINED AT
+                    CP4N      76.  12.17     20.      7.      2.    0.17

     ROUTED TO
+                    R6N       73.  12.17     20.      7.      2.    0.17
+                                                                             1.41    12.17

     HYDROGRAPH AT
+                    SUB6A     50.  12.08      4.      1.      0.    0.01

     2 COMBINED AT
+                    CP6.2    107.  12.17     23.      8.      3.    0.18

     2 COMBINED AT
+                    CP6N     410.  12.58     84.     27.      9.    0.60

     ROUTED TO
+                    RCP6N    406.  12.58     84.     27.      9.    0.60
+                                                                             2.09    12.58

     HYDROGRAPH AT
+                    SUB3C     43.  12.08      3.      1.      0.    0.01

     2 COMBINED AT
```

+		CP3C	409.	12.58	87.	28.	9.	0.61	
	ROUTED TO								
+		R3C	395.	12.67	87.	28.	9.	0.61	
+									1672.36 12.67
	HYDROGRAPH AT								
+		GC1018	90.	12.17	8.	2.	1.	0.04	
	HYDROGRAPH AT								
+		GC1-9	52.	12.17	5.	1.	0.	0.03	
	HYDROGRAPH AT								
+		SUB3S	27.	12.17	2.	1.	0.	0.01	
	4 COMBINED AT								
+		CP3S	425.	12.67	101.	32.	11.	0.69	
	ROUTED TO								
+		RT3S	424.	12.67	101.	32.	11.	0.69	
+									1744.06 12.67
	HYDROGRAPH AT								
+		SUB4S	73.	12.17	6.	2.	1.	0.03	
	ROUTED TO								
+		RT4S	71.	12.17	6.	2.	1.	0.03	
+									1743.32 12.17
	HYDROGRAPH AT								
+		GC2-8	28.	12.17	3.	1.	0.	0.01	
	3 COMBINED AT								
+		1PGC28	441.	12.67	110.	35.	12.	0.74	
	HYDROGRAPH AT								
+		SUB3D3	30.	12.17	3.	1.	0.	0.01	
	2 COMBINED AT								
+		CPGC28	445.	12.67	113.	36.	12.	0.75	
	ROUTED TO								
+		SRGC28	433.	12.67	112.	36.	12.	0.75	
+									1712.33 12.67
	ROUTED TO								
+		RT7S	431.	12.75	112.	36.	12.	0.75	
+									1744.18 12.75
	HYDROGRAPH AT								
+		GC7	27.	12.17	2.	1.	0.	0.01	
	2 COMBINED AT								
+		CP7S	435.	12.75	114.	36.	12.	0.76	
	DIVERSION TO								
+		B7ST	435.	0.08	114.	36.	12.	0.76	
	HYDROGRAPH AT								
+		D7ST	0.	0.08	0.	0.	0.	0.76	
	2 COMBINED AT								
+		CLEAR	0.	0.08	0.	0.	0.	3.67	
	HYDROGRAPH AT								
+		SUB3D1	23.	12.08	2.	1.	0.	0.01	
	ROUTED TO								
+		RD1B1	19.	12.17	2.	1.	0.	0.01	
+									1.68 12.17
	HYDROGRAPH AT								
+		SUB3B1	39.	12.08	3.	1.	0.	0.01	
	2 COMBINED AT								
+		CP3B1	53.	12.08	5.	2.	1.	0.02	
	ROUTED TO								
+		RB13F	42.	12.25	5.	2.	1.	0.02	
+									1.75 12.25
	HYDROGRAPH AT								
+		SUB3F	110.	12.08	9.	3.	1.	0.03	
	2 COMBINED AT								
+		CP3F	137.	12.08	14.	4.	1.	0.06	
	HYDROGRAPH AT								
+		SUB3B2	57.	12.17	5.	2.	1.	0.02	
	ROUTED TO								
+		RB2E1	55.	12.17	5.	2.	1.	0.02	
+									1.82 12.17
	ROUTED TO								

+		RB2E2	52.	12.25	5.	2.	1.	0.02	
+									1.86 12.25
	HYDROGRAPH AT								
+		SUB3E1	57.	12.17	5.	2.	1.	0.02	
	2 COMBINED AT								
+		1CPE31	107.	12.17	11.	3.	1.	0.05	
	HYDROGRAPH AT								
+		SUB3D2	50.	12.17	5.	1.	0.	0.02	
	ROUTED TO								
+		RD2E2	48.	12.17	5.	1.	0.	0.02	
+									1.74 12.17
	HYDROGRAPH AT								
+		SUB3E2	31.	12.08	2.	1.	0.	0.01	
	2 COMBINED AT								
+		CP3E2	73.	12.17	7.	2.	1.	0.03	
	HYDROGRAPH AT								
+		PC3	55.	12.25	7.	2.	1.	0.04	
	4 COMBINED AT								
+		CPC3	353.	12.17	38.	12.	4.	0.18	
	DIVERSION TO								
+		BPC3T	353.	0.08	38.	12.	4.	0.18	
	HYDROGRAPH AT								
+		DPC3T	0.	0.08	0.	0.	0.	0.18	
	HYDROGRAPH AT								
+		SUB3E3	51.	12.08	4.	1.	0.	0.02	
	HYDROGRAPH AT								
+		PC4	25.	12.25	3.	1.	0.	0.02	
	HYDROGRAPH AT								
+		D7S	435.	12.75	114.	36.	12.	0.00	
	3 COMBINED AT								
+		CPC4	446.	12.75	121.	39.	13.	0.04	
	DIVERSION TO								
+		BPC4T	446.	0.08	121.	39.	13.	0.04	
	HYDROGRAPH AT								
+		DPC4T	0.	0.08	0.	0.	0.	0.04	
	3 COMBINED AT								
+		CLEAR	0.	0.08	0.	0.	0.	3.89	
	HYDROGRAPH AT								
+		1A1	446.	12.58	76.	23.	8.	0.75	
	ROUTED TO								
+		R1A1	387.	12.83	75.	23.	8.	0.75	
+									1.03 12.83
	HYDROGRAPH AT								
+		1A2	1073.	12.25	108.	33.	11.	0.61	
	2 COMBINED AT								
+		C1A	1074.	12.25	180.	55.	19.	1.36	
	ROUTED TO								
+		R14R	852.	12.33	180.	55.	19.	1.36	
+									3.70 12.33
	ROUTED TO								
+		RET141	835.	12.33	173.	55.	19.	1.36	
+									1794.74 12.33
	ROUTED TO								
+		R14.1	725.	12.50	173.	55.	19.	1.36	
+									3.44 12.50
	HYDROGRAPH AT								
+		SUB13N	73.	12.17	7.	2.	1.	0.04	
	ROUTED TO								
+		R14.1	70.	12.25	7.	2.	1.	0.04	
+									1.57 12.25
	HYDROGRAPH AT								
+		SUB14N	80.	12.25	9.	2.	1.	0.05	
	3 COMBINED AT								
+		CP14	789.	12.50	187.	60.	20.	1.44	
	ROUTED TO								
+		RET14	728.	12.58	182.	60.	20.	1.44	

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+                                                                                                  1755.92      12.58

          ROUTED TO
+                        R18.1     721.  12.58      182.      60.      20.     1.44
+                                                                                                     2.77      12.58

          HYDROGRAPH AT
+                       SUB20N      42.  12.17        5.       1.       0.     0.02

          ROUTED TO
+                          R19      42.  12.25        5.       1.       0.     0.02
+                                                                                                     1.11      12.25

          HYDROGRAPH AT
+                       SUB19N      80.  12.17        8.       2.       1.     0.04

          2 COMBINED AT
+                        CP19N     116.  12.17       12.       4.       1.     0.06

          ROUTED TO
+                        R18NC     115.  12.25       12.       4.       1.     0.06
+                                                                                                     1.58      12.25

          HYDROGRAPH AT
+                       UB18NC      53.  12.17        5.       1.       0.     0.02

          3 COMBINED AT
+                       CP18NC     769.  12.58      197.      65.      22.     1.53

          ROUTED TO
+                          RPC1    779.  12.58      197.      65.      22.     1.53
+                                                                                                     2.36      12.58

          HYDROGRAPH AT
+                       UB18NA      55.  12.17        5.       1.       0.     0.02

          ROUTED TO
+                         1RPC1     28.  12.33        5.       1.       0.     0.02
+                                                                                                     0.37      12.33

          HYDROGRAPH AT
+                       UB18NB      23.  12.17        2.       1.       0.     0.01

          ROUTED TO
+                         2RPC1     14.  12.25        2.       1.       0.     0.01
+                                                                                                     0.19      12.25

          HYDROGRAPH AT
+                          PC1      63.  12.42       10.       3.       1.     0.06

          3 COMBINED AT
+                         1CPC1    101.  12.42       17.       5.       2.     0.09

          ROUTED TO
+                         SRPC1    101.  12.42       17.       5.       2.     0.09
+                                                                                                  1748.29      12.42

          2 COMBINED AT
+                          CPC1    859.  12.58      213.      70.      23.     1.62

          ROUTED TO
+                       R16NA1     877.  12.58      213.      70.      23.     1.62
+                                                                                                     2.25      12.58

          HYDROGRAPH AT
+                       UB16NA      35.  12.17        3.       1.       0.     0.01

          ROUTED TO
+                       R16NA1      31.  12.17        3.       1.       0.     0.01
+                                                                                                     0.69      12.17

          2 COMBINED AT
+                       C16NA1     885.  12.58      216.      71.      24.     1.63

          ROUTED TO
+                       R16NB1     886.  12.58      216.      71.      24.     1.63
+                                                                                                     2.26      12.58

          HYDROGRAPH AT
+                       UB16NB      40.  12.17        3.       1.       0.     0.02

          ROUTED TO
+                       R16NB1      36.  12.17        3.       1.       0.     0.02
+                                                                                                     0.74      12.17

          2 COMBINED AT
+                       C16NB1     895.  12.58      219.      72.      24.     1.65

          ROUTED TO
+                       R16NC1     871.  12.58      219.      72.      24.     1.65
+                                                                                                     2.80      12.58

          HYDROGRAPH AT
+                        SUB7N      64.  12.17        6.       2.       1.     0.03
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          ROUTED TO
+                        R8NC      56.  12.17        6.        2.        1.      0.03
+                                                                                          1.39      12.17

          HYDROGRAPH AT
+                      SUB8NA      12.  12.08        1.        0.        0.      0.00

          ROUTED TO
+                        SR8NA       1.  13.00        0.        0.        0.      0.00
+                                                                                       1793.23      13.08

          ROUTED TO
+                        R8NB        1.  13.00        0.        0.        0.      0.00
+                                                                                          0.01      13.08

          HYDROGRAPH AT
+                      SUB8NB      31.  12.08        3.        1.        0.      0.01

          2 COMBINED AT
+                        CP8NB      31.  12.08        3.        1.        0.      0.02

          ROUTED TO
+                        SR8NB       2.  11.92        2.        1.        0.      0.02
+                                                                                       1787.30      13.33

          ROUTED TO
+                        R8NC        2.  12.00        2.        1.        0.      0.02
+                                                                                          0.02      12.00

          HYDROGRAPH AT
+                      SUB8NC      44.  12.08        3.        1.        0.      0.02

          3 COMBINED AT
+                        CP8NC      93.  12.17       11.        3.        1.      0.07

          ROUTED TO
+                        SR8NC      15.  12.75       11.        3.        1.      0.07
+                                                                                       1780.00      12.75

          ROUTED TO
+                         R9N       14.  12.83       11.        3.        1.      0.07
+                                                                                          0.47      12.83

          HYDROGRAPH AT
+                       SUB9N     122.  12.17       11.        3.        1.      0.05

          2 COMBINED AT
+                         CP9N     132.  12.17       21.        7.        2.      0.12

          ROUTED TO
+                        R10B     130.  12.17       21.        7.        2.      0.12
+                                                                                          1.61      12.17

          HYDROGRAPH AT
+                      SUB10B      72.  12.08        6.        2.        1.      0.03

          2 COMBINED AT
+                       CP10B     197.  12.17       27.        9.        3.      0.15

          ROUTED TO
+                       R11NA     199.  12.17       27.        9.        3.      0.15
+                                                                                          1.66      12.17

          HYDROGRAPH AT
+                     UB11NA      19.  12.08        1.        0.        0.      0.01

          2 COMBINED AT
+                     CP11NA     213.  12.17       28.        9.        3.      0.16

          ROUTED TO
+                     SR11NA     133.  12.33       28.        9.        3.      0.16
+                                                                                       1743.51      12.33

          ROUTED TO
+                      R11NB     123.  12.33       28.        9.        3.      0.16
+                                                                                          0.69      12.33

          HYDROGRAPH AT
+                     UB11NB      19.  12.08        1.        0.        0.      0.01

          2 COMBINED AT
+                     CP11NB     129.  12.33       29.        9.        3.      0.17

          ROUTED TO
+                     SR11NB      76.  12.50       29.        9.        3.      0.17
+                                                                                       1737.59      12.50

          ROUTED TO
+                      R11NC      78.  12.50       29.        9.        3.      0.17
+                                                                                          0.52      12.50

          HYDROGRAPH AT
+                     UB11NC      17.  12.08        1.        0.        0.      0.01

          2 COMBINED AT
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+                    C11NC1      81.  12.50       30.      10.      3.     0.17
        HYDROGRAPH AT
+                    SUB10A      74.  12.17        7.       2.      1.     0.03
        ROUTED TO
+                    R12NB       79.  12.17        7.       2.      1.     0.03
+                                                                                   0.75      12.17
        HYDROGRAPH AT
+                    UB12NA      32.  12.17        3.       1.      0.     0.02
        ROUTED TO
+                    SR12NA       1.  16.42        1.       0.      0.     0.02
+                                                                                1743.12      16.75
        ROUTED TO
+                    R12NA        1.  16.42        1.       0.      0.     0.02
+                                                                                   0.01      16.83
        HYDROGRAPH AT
+                    UB12NB      32.  12.17        3.       1.      0.     0.02
        3 COMBINED AT
+                    CP12NB     112.  12.17       10.       3.      1.     0.06
        ROUTED TO
+                    SR12NB       2.  12.08        2.       2.      1.     0.06
+                                                                                1745.97      17.33
        ROUTED TO
+                    R11NC2       2.  12.42        2.       2.      1.     0.06
+                                                                                   0.07      12.92
        2 COMBINED AT
+                    CP11NC      83.  12.50       32.      11.      4.     0.23
        ROUTED TO
+                    SR11NC      66.  12.75       30.      11.      4.     0.23
+                                                                                1735.47      12.75
        ROUTED TO
+                    R16NC       65.  12.75       30.      11.      4.     0.23
+                                                                                   1.33      12.75
        HYDROGRAPH AT
+                    UB16NC      85.  12.17        7.       2.      1.     0.03
        2 COMBINED AT
+                    CP16NC      92.  12.17       36.      13.      5.     0.27
        ROUTED TO
+                    R16NC1      91.  12.17       36.      13.      5.     0.27
+                                                                                   1.12      12.17
        2 COMBINED AT
+                    C16NC1     924.  12.67      255.      85.     29.     1.92
        ROUTED TO
+                    R15N1      940.  12.67      255.      85.     29.     1.92
+                                                                                   2.89      12.67
        HYDROGRAPH AT
+                    PC2         84.  12.25        9.       3.      1.     0.05
        2 COMBINED AT
+                    CP15N1     963.  12.67      264.      88.     30.     1.97
        ROUTED TO
+                    SRPC2      925.  12.67      263.      88.     30.     1.97
+                                                                                1735.25      12.67
        HYDROGRAPH AT
+                    UB17NA      24.  12.08        2.       0.      0.     0.01
        ROUTED TO
+                    SR17NA       2.  12.75        1.       0.      0.     0.01
+                                                                                1759.06      12.75
        ROUTED TO
+                    R17NB        2.  12.75        1.       0.      0.     0.01
+                                                                                1756.02      12.75
        HYDROGRAPH AT
+                    UB17NB      24.  12.17        2.       1.      0.     0.01
        2 COMBINED AT
+                    CP17NB      25.  12.17        3.       1.      0.     0.02
        ROUTED TO
+                    SR17NB       1.  11.83        1.       1.      0.     0.02
+                                                                                1756.29      22.67
        ROUTED TO
+                    R17A         1.  11.92        1.       1.      0.     0.02
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+                                                                                    1752.09      11.92
          HYDROGRAPH AT
+                    SUB17A     24.  12.08      2.      0.      0.    0.01
          2 COMBINED AT
+                    CP17A1     25.  12.08      3.      1.      1.    0.03
          HYDROGRAPH AT
+                    UB17NC     16.  12.08      1.      0.      0.    0.01
          2 COMBINED AT
+                    CP17A      41.  12.08      4.      2.      1.    0.03
          ROUTED TO
+                    R15N       29.  12.17      4.      2.      1.    0.03
+                                                                                       0.85      12.17
          HYDROGRAPH AT
+                    SUB15N    117.  12.17     10.      3.      1.    0.04
          2 COMBINED AT
+                    CP15N     146.  12.17     14.      5.      2.    0.07
          ROUTED TO
+                    R15N2     148.  12.17     14.      5.      2.    0.07
+                                                                                       1.80      12.17
          2 COMBINED AT
+                    CP15N2    949.  12.67    275.     92.     32.    2.04
          ROUTED TO
+                    R15N2     920.  12.75    275.     92.     32.    2.04
+                                                                                       2.55      12.75
          HYDROGRAPH AT
+                    DPC3      353.  12.17     38.     12.      4.    0.00
          2 COMBINED AT
+                    CPC3A     976.  12.75    310.    103.     36.    2.04
          ROUTED TO
+                    RPC3A     970.  12.83    310.    103.     36.    2.04
+                                                                                       2.61      12.83
          HYDROGRAPH AT
+                    DPC4      446.  12.75    121.     39.     13.    0.00
          2 COMBINED AT
+                    CPC4A    1394.  12.83    431.    142.     49.    2.04
          ROUTED TO
+                    RPC4A    1392.  12.83    431.    142.     49.    2.04
+                                                                                       3.07      12.83
          DIVERSION TO
+                    BPC4AT   1392.   0.08    431.    142.     49.    2.04
          HYDROGRAPH AT
+                    DPC4AT      0.   0.08      0.      0.      0.    2.04
          HYDROGRAPH AT
+                    SUB1-2    148.  12.17     14.      5.      2.    0.06
          HYDROGRAPH AT
+                    GCRB18     24.  12.17      2.      1.      0.    0.01
          2 COMBINED AT
+                    CPRET1    171.  12.17     17.      5.      2.    0.07
          ROUTED TO
+                    SR18S       0.   0.08      0.      0.      0.    0.07
+                                                                                    1738.51      77.92
          HYDROGRAPH AT
+                    SUB5S      61.  12.17      5.      2.      1.    0.03
          HYDROGRAPH AT
+                    GC1216     74.  12.17      7.      2.      1.    0.04
          HYDROGRAPH AT
+                    GC1415     91.  12.17      8.      2.      1.    0.05
          HYDROGRAPH AT
+                    SUB6S      45.  12.17      5.      1.      0.    0.02
          HYDROGRAPH AT
+                    SUB7S      66.  12.17      6.      2.      1.    0.03
          5 COMBINED AT
+                    CPRET2    337.  12.17     30.      9.      3.    0.16
          ROUTED TO
+                    SRRET2      0.   0.08      0.      0.      0.    0.16
+                                                                                    1688.88      76.83
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	2 COMBINED AT								
+		CLEAR	0.	0.08	0.	0.	0.	0.22		
	HYDROGRAPH AT								
+		SUB8S	63.	12.17	6.	2.	1.	0.03		
	ROUTED TO								
+		RGC36	55.	12.25	6.	2.	1.	0.03		
+									1.05	12.25
	HYDROGRAPH AT								
+		GC36	74.	12.17	7.	2.	1.	0.04		
	2 COMBINED AT								
+		C1GC36	128.	12.17	13.	4.	1.	0.07		
	HYDROGRAPH AT								
+		SUB9S	56.	12.17	5.	2.	1.	0.02		
	ROUTED TO								
+		R9S	57.	12.17	5.	2.	1.	0.02		
+									3.36	12.17
	2 COMBINED AT								
+		CPGC36	185.	12.17	18.	5.	2.	0.09		
	ROUTED TO								
+		SRGC36	210.	12.17	18.	5.	2.	0.09		
+									1669.03	12.17
	HYDROGRAPH AT								
+		SUB7A	23.	12.17	2.	1.	0.	0.01		
	ROUTED TO								
+		SR7A	7.	12.42	2.	1.	0.	0.01		
+									1702.00	12.42
	ROUTED TO								
+		R10S	6.	12.58	2.	1.	0.	0.01		
+									2.56	12.58
	HYDROGRAPH AT								
+		SUB10S	66.	12.17	6.	2.	1.	0.02		
	2 COMBINED AT								
+		CP10S	68.	12.17	8.	2.	1.	0.03		
	HYDROGRAPH AT								
+		SUB11S	92.	12.08	6.	2.	1.	0.02		
	ROUTED TO								
+		R11S	72.	12.17	6.	2.	1.	0.02		
+									3.59	12.17
	2 COMBINED AT								
+		C10SA	140.	12.17	14.	4.	1.	0.06		
	ROUTED TO								
+		R10SA	141.	12.17	14.	4.	1.	0.06		
+									4.10	12.17
	HYDROGRAPH AT								
+		GC45	38.	12.08	2.	1.	0.	0.01		
	2 COMBINED AT								
+		CGC45	162.	12.17	16.	5.	2.	0.07		
	HYDROGRAPH AT								
+		PC5	42.	12.33	6.	2.	1.	0.04		
	HYDROGRAPH AT								
+		DPC4A	1392.	12.83	431.	142.	49.	0.00		
	5 COMBINED AT								
+		CPC5	1449.	12.83	469.	153.	53.	0.42		
	ROUTED TO								
+		RC5	1421.	12.92	469.	153.	53.	0.42		
+									3.10	12.92
	HYDROGRAPH AT								
+		SCN5D	63.	12.25	7.	2.	1.	0.05		
	2 COMBINED AT								
+		CN5D	1430.	12.92	475.	155.	53.	0.47		
	HYDROGRAPH AT								
+		D52	2101.	12.33	470.	144.	48.	0.00		
	HYDROGRAPH AT								
+		S53A	235.	12.25	27.	8.	3.	0.18		
	2 COMBINED AT								
+		C53	2317.	12.33	497.	152.	51.	0.18		

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                HYDROGRAPH AT
+                          S53A1     435.  12.33      54.      16.       5.    0.34
                2 COMBINED AT
+                           C53A    2752.  12.33     551.     168.      57.    0.52
                HYDROGRAPH AT
+                          SCN6B     127.  12.17      12.       4.       1.    0.05
                HYDROGRAPH AT
+                          SCN6D      61.  12.17       5.       1.       0.    0.04
                3 COMBINED AT
+                           CP6D    2855.  12.33     568.     173.      58.    0.61
                HYDROGRAPH AT
+                          SCN6C     295.  12.17      28.       9.       3.    0.14
                2 COMBINED AT
+                           CP6C    3058.  12.25     595.     182.      61.    0.74
                2 COMBINED AT
+                           CP5D    4209.  12.33    1068.     335.     114.    1.21
                HYDROGRAPH AT
+                          SCN5C     235.  12.25      25.       7.       2.    0.19
                HYDROGRAPH AT
+                          SCN6E      35.  12.50       6.       2.       1.    0.04
                3 COMBINED AT
+                          EAST-I    4432.  12.33    1099.     344.     117.    1.45
                ROUTED TO
+                          EAST-O    2033.  13.08    1097.     344.     117.    1.45
+                                                                          1611.51      13.08
1
```

APPENDIX F

East Side Interim Build-Out and 50% Clogging Condition
50-YEAR, 24-HOUR
PRINTOUT (I-4)

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991           *
*            VERSION 4.0.1E         *
*     Lahey F77L-EM/32 version 5.01 *
*       Dodson & Associates, Inc.   *
*  RUN DATE  02/25/99  TIME  08:05:35  *
*************************************
```

```
*************************************
*                                   *
*    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

1 HEC-1 INPUT PAGE 1

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

  1           ID    PIMA ROAD THREE BASINS                                File:  EX50-24.IH1
  2           ID    by  Stantec for the City of Scottsdale            Original: 08-07-97     mcg
  3           ID        Project:  28900082                             Revised: 01-20-99     mcg
  4           ID
  5           ID
  6           ID    50-YEAR, 24-HOUR STORM
  7           ID        INTERIM CONDITION:
  8           ID           NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
  9           ID           GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
 10           ID           THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
 11           ID           THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF
 12           ID           FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.
 13           ID
 14           ID        THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
 15           ID            DEI FILE NAME:  GH23FAB.H1I
 16           ID            MODEL DATE:     21 MAY 96
 17           ID
 18           ID        THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
 19           ID            WOOD/PATEL FILE NAME:  DC0721C.DAT
 20           ID            MODEL DATE:            4 JANUARY 96
 21           ID
 22           ID
              *DIAGRAM
 23           IT       5                    1000
 24           IO       5
              *

 25           KK   S51.1
 26           KM     RUNOFF FROM SUBBASIN 51.1
 27           KM        RAINFALL LOSSES FOR GREINER SUBBASINS 51.1 AND 49.1 ARE AREA WEIGHTED
 28           BA   1.130
 29           PH            6.9     0.68     1.32     2.23     2.49     2.66     2.98     3.37     3.76
 30           LS           73.9       12
 31           UK     300   0.037    0.130      100
 32           RK    1800   0.038    0.045   0.0161     TRAP        0       12
 33           RK   14400   0.032    0.040             TRAP       40       15
              *

 34           KK  DVDB-O
 35           KM     DETENTION BASIN AT DEER VALLEY ROAD
 36           KM     PRINCIPAL SPILLWAY:  54" CONDUIT THAT TIES INTO THE PIMA ROAD STORM DRAIN
 37           KM        STAGE-DISCHARGE RATING CURVE REFLECTS 50% CLOGGING OF THE TRASHRACK
 38           KM        2 ACRE-FEET OF STORAGE FOR SEDIMENTAION
 39           KM
 40           RS       1    STOR       -1
 41           SV       0    0.54     0.96     1.18     1.68     2.09     3.72      6.3      9.8    14.25
 42           SV   19.23   24.78    30.93    34.23    37.69     41.3    45.08    49.03    57.33    61.54
 43           SQ       0       3       15       28       51       81      141      181      202      215
 44           SQ     223     231      240      242      245      248      250      253      256      258
 45           SE    1855    1856     1857     1858     1859     1860     1862     1864     1866     1868
 46           SE    1870    1872     1874     1875     1876     1877     1878     1879     1880     1881
              *
              *
              *  R51.1
              *    DEER VALLEY BASIN OUTLET CONDUIT TO THOMPSON PEAK PARKWAY
              *    NO ROUTING THROUGH CONDUIT.
              *       L = 2820 feet
```

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

                *
 47             KK  D51.1T
 48             KM     DIVERT 100% OF FLOW TO RETRIEVE AT THOMPSON PEAK PARKWAY
 49             DT  B51.1T
 50             DI       0   10000
 51             DQ       0   10000
                *
                *
                *     ******************  BEGIN DC RANCH WATERSHED  ******************
                *
                *       THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
                *           WOOD/PATEL FILE NAME:  DC0721C.DAT
                *           MODEL DATE:            4 JANUARY 96
                *

 52             KK    52D4
 53             KM   RUNOFF FROM SUBBASIN 52D4
 54             BA    .070
 55             LS              75    14.5
 56             UK     120    .010     .15     100
 57             RK    3100    .035    .045            TRAP      30      10
                *

 58             KK   52D4R
 59             KM   ROUTE 52D4C THROUGH 52D5 TO CP 52D5C
 60             RK    1350    .033    .045            TRAP      10      10
                *

 61             KK   52D4B
 62             KM   RUNOFF FROM SUBBASIN 52D4B
 63             BA    .022
 64             LS              75      63
 65             UK     120    .010     .15     100
 66             RK    2200    .033    .045            TRAP      30      10
                *

 67             KK  52D5C1
 68             KM   COMBINE 52D4R AND 52D4B
 69             HC       2
                *

 70             KK   52D5A
 71             KM   RUNOFF FROM 52D5A
 72             BA   .0232
 73             LS              75      63
 74             UK     120    .010     .15     100
 75             RK    1300    .032    .045            TRAP      30      10
                *

 76             KK  52D5AR
 77             KM   ROUTE 52D5A THROUGH BEARDSLEY CHANNEL TO CP 52D5C2
 78             RK     400   .0143    .035            TRAP      50       4
                *
```



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

 79             KK  52D5C2
 80             KM   COMBINE 25D5C1 AND 52D5AR
 81             HC       2
                *

 82             KK   52D5R
 83             KM   ROUTE 52D5C IN BEARDSLEY CHANNEL TO CP 52C3BC2
 84             RK     240   .0143    .035            TRAP      50       4
                *

 85             KK    52C3
 86             KM   RUNOFF FROM SUBBASIN 52C3
 87             BA    .006
 88             LS              75      65
 89             UK     100     .02     .10     100
 90             RK     800    .033    .045            TRAP      30      10
                *

 91             KK   52C3R
 92             KM   ROUTE 52C3 THROUGH SUBBASIN 52C4 TO CP 52C4C1
 93             RK    1350    .034    .045            TRAP      10      10
                *

 94             KK   52C3B
 95             KM   RUNOFF FROM SUBBASIN 52C3B
 96             BA    .016
 97             LS              75      60
 98             UK     100     .02     .10     100
 99             RK    1400    .034    .045            TRAP      30      10
                *

100             KK  2C3BC1
```

```
 101          KM   COMBINE 52C3B AND 52C3R
 102          HC       2
              *

 103          KK  2C3BC2
 104          KM   COMBINE 52C3BC1 AND 52C5R
 105          HC       2
              *

 106          KK  52C3BR
 107          KM   ROUTE 52C3BC2 IN BEARDSLEY CHANNEL TO CP 52C4C2
 108          RK     430   .0143    .035            TRAP      50       4
              *
              *

 109          KK     51C     SUB
 110          KM        RUNOFF FROM SUB 51C
 111          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
 112          KM        CONDITIONS.
 113          BA   .0972
 114          LS              70       5
 115          UK     100   .0213     .10     100
1                                        HEC-1 INPUT                                          PAGE  4

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

 116          RK    3900   .0375    .045            TRAP      30      10
              *

 117          KK   51C1D
 118          KM   DIVERT 67 PERCENT OF 51C TO WEST (33 PERCENT TO SOUTH)
 119          DT  51C1DV
 120          DI       0   10000
 121          DQ       0    6700
              *

 122          KK   51C1R
 123          KM   ROUTE 51C1D THROUGH SUBBASIN 52C1
 124          RK    1350   .0364    .045            TRAP      10      10
              *

 125          KK    52C1
 126          KM   RUNOFF FROM SUBBASIN 52C1
 127          BA    .029
 128          LS              75    20.5
 129          UK     100     .02     .10     100
 130          RK    1350    .021    .045            TRAP      30      10
              *

 131          KK   52C1C
 132          KM   COMBINE 51C1R AND 52C1
 133          HC       2   .0611
              *

 134          KK   52C1R
 135          KM   ROUTE 52C1C THROUGH BASIN 52C2A TO CP 52C2BC
 136          RK    1500    .033    .045            TRAP      10      10
              *

 137          KK   52C2A
 138          KM   RUNOFF FROM SUBBASIN 52C2A
 139          BA    .019
 140          LS              75       2
 141          UK     100     .02     .10     100
 142          RK    1500    .033    .045            TRAP      30      10
              *

 143          KK  52C2AC
 144          KM   COMBINE 52C2A AND 52C1R
 145          HC       2
              *

 146          KK   52C2B
 147          KM   RUNOFF FROM SUBBASIN 52C2B
 148          BA   .0275
 149          LS              75      11
 150          UK     100     .02     .10     100
 151          RK    2000    .030    .045            TRAP      30      10
              *
1                                        HEC-1 INPUT                                          PAGE  5

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

 152          KK  52C2BC
 153          KM   COMBINE 52C2B AND 52C2AC
 154          HC       2
              *

 155          KK  52C2BR
 156          KM   ROUTE 52C2BC THROUGH 52C2C TO CP 52C2CC
 157          RK    1500    .040    .045            TRAP      10      10
              *

 158          KK   52C2C
```

```
159          KM   RUNOFF FROM SUBBASIN 52C2C
160          BA    .014
161          LS              75      62
162          UK     100     .02     .10     100
163          RK    1500     .04    .045            TRAP      30      10
             *

164          KK  52C2CC
165          KM   COMBINE 52C2C AND 52C2BR
166          HC       2
             *

167          KK   52C2R
168          KM   ROUTE 52C2CC THROUGH SUBBASIN 52C4 TO CP 52C4C1
169          RK    1550    .030    .045            TRAP      10      10
             *

170          KK    52C4
171          KM   RUNOFF FROM SUBBASIN 52C4
172          BA    .017
173          LS              75      60
174          UK     100     .02     .10     100
175          RK    1550    .030    .045            TRAP      30      10
             *

176          KK  52C4C1
177          KM   COMBINE 52C4 AND 52C2R
178          HC       2
             *

179          KK  52C4C2
180          KM   COMBINE 52C4C1 AND 52C3BR
181          HC       2
             *

182          KK   52C4R
183          KM   ROUTE 52C4C2 WEST IN BEARDSLEY CHANNEL TO CP 52C15C2
184          RK     850   .0143    .035            TRAP      50       4
             *
```



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

185          KK   52C13
186          KM   RUNOFF FROM SUBBASIN 52C13
187          BA    .023
188          LS              75      31
189          UK     100     .02     .10     100
190          RK     950    .040    .045            TRAP      30      10
             *

191          KK  2C13DV
192          KM   DIVERT FIRST 40 CFS INTO STORM DRAIN; REMAINDER FLOWS OVER ROAD
193          DT   STORM
194          DI       0      40    1000
195          DQ       0      40      40
             *
             * KK52C13R
             * KM ROUTE 52C13 THROUGH SUBBASIN 52C15 TO CP 52C15C1
             * RK  1800    .035    .045            TRAP      10      10
             *

196          KK   52C15
197          KM   RUNOFF FROM SUBBASIN 52C15
198          BA    .046
199          LS              75    64.4
200          UK     100     .02     .10     100
201          RK    2050    .036    .045            TRAP      30      10
             *

202          KK  2C15C1
203          KM   COMBINE 52C15 AND 52C13DV
204          HC       2    .046
             *

205          KK  2C15C2
206          KM   COMBINE 52C15C1 AND 52C4R
207          HC       2
             *

208          KK  52C15R
209          KM   ROUTE 52C15C2 IN BEARDSLEY CHANNEL TO CP 52C14C3
210          RK     750   .0143    .035            TRAP      50       4
             *

211          KK  52C14A
212          KM   RUNOFF FROM SUBBASIN 52C14A
213          BA    .041
214          LS              75    67.7
215          UK     100     .02     .10     100
216          RK    2050    .031    .045            TRAP      30      10
             *
```

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

 217          KK  2C14AC
 218          KM   COMBINE 52C14A AND 52C15R
 219          HC       2
              *

 220          KK  2C14AR
 221          KM   ROUTE 52C14AC IN BEARDSLEY CHANNEL TO CP 52C14BC2
 222          RK     380   .0143    .035            TRAP      50       4
              *
              *

 223          KK  51C1DV
 224          KM   RETRIEVE DIVERTED FLOW
 225          DR  51C1DV
              *

 226          KK   51C2D
 227          KM   DIVERT 27 PERCENT OF 51C1DV TO WEST (73 PERCENT TO SOUTH)
 228          DT  51C2DV
 229          DI       0   10000
 230          DQ       0    2700
              *

 231          KK   51C2R
 232          KM   ROUTE 51C2D THROUGH SUBBASIN 52C5 TO CP 52C5C
 233          RK     700    .030    .045            TRAP      10      10
              *

 234          KK    52C5
 235          KM   RUNOFF FROM SUBBASIN 52C5
 236          BA    .016
 237          LS              75      27
 238          UK     100     .02     .10     100
 239          RK    1200     .03    .045            TRAP      30      10
              *

 240          KK   52C5C
 241          KM   COMBINE 51C2R AND 52C5
 242          HC       2   .0635
              *

 243          KK   52C5R
 244          KM   ROUTE 52C5C THROUGH SUBBASIN 52C6 TO CP 52C6C
 245          RK    3100    .035    .045            TRAP      10      10
              *

 246          KK    52C6
 247          KM   RUNOFF FROM SUBBASIN 52C6
 248          BA    .036
 249          LS              75    31.4
 250          UK     100     .02     .10     100
 251          RK    3100    .035    .045            TRAP      30      10
              *
1                                        HEC-1 INPUT                                                PAGE  8

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

 252          KK   52C6C
 253          KM   COMBINE 52C5R AND 52C6
 254          HC       2
              *

 255          KK   52C6R
 256          KM   ROUTE 52C6C THROUGH SUBBASIN 52C10 TO CP 52C10C2
 257          RK     450    .032    .045            TRAP      10      10
              *

 258          KK  51C2DV
 259          KM   RETRIEVE 52C2DV
 260          DR  51C2DV
              *

 261          KK   51C3R
 262          KM   ROUTE 52C2DV THROUGH SUBBASIN 52C7 TO CP 52C7C
 263          RK     700    .040    .045            TRAP      10      10
              *

 264          KK     51B     SUB
 265          KM        RUNOFF FROM SUB 51B
 266          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
 267          KM        CONDITIONS.
 268          BA   .5711
 269          LS              70       5
 270          UK     100   .0213     .10     100
 271          RK    8900   .0300    .045            TRAP      50      25
              *

 272          KK   51B1D
 273          KM   DIVERT 92 PERCENT OF SUBBASIN 51B TO WEST (8 PERCENT TO SOUTH)
 274          DT  51B1DV
 275          DI       0   10000
```

```
 276          DQ       0    9200
              *

 277          KK   51B1R
 278          KM    ROUTE 51B1D THROUGH SUBBASIN 52C7 TO CP 52C7C
 279          RK     450     .04    .045            TRAP      10      10
              *

 280          KK    52C7
 281          KM   RUNOFF FROM SUBBASIN 52C7
 282          BA    .006
 283          LS              75      27
 284          UK     100     .02     .10     100
 285          RK     550     .04    .045            TRAP      30      10
              *
1                                          HEC-1 INPUT                                                    PAGE  9

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

 286          KK   52C7C
 287          KM   COMBINE 51B1R, 51C3R, AND 52C7
 288          HC       3   .0693
              *

 289          KK   52C7R
 290          KM   ROUTE 52C7C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 291          RK    1550    .036    .045            TRAP      10      10
              *

 292          KK  51B1DV
 293          KM   RETRIEVE DIVERTED FLOW 51B1DV
 294          DR  51B1DV
              *

 295          KK   51B2D
 296          KM   DIVERT 84 PERCENT OF 51B1DV TO WEST (16 PERCENT TO SOUTH)
 297          DT  51B2DV
 298          DI       0   10000
 299          DQ       0    8400
              *

 300          KK   51B2R
 301          KM   ROUTE 51B2D THROUGH SUBBASIN 52C8 TO CP 52C8C
 302          RK     750    .034    .045            TRAP      10      10
              *

 303          KK    52C8
 304          KM   RUNOFF FROM SUBBASIN 52C8
 305          BA    .008
 306          LS              75      27
 307          UK     100     .02     .10     100
 308          RK     750    .034    .045            TRAP      30      10
              *

 309          KK   52C8C
 310          KM   COMBINE 51B2R AND 52C8
 311          HC       2   .4493
              *

 312          KK   52C8R
 313          KM   ROUTE 52C8C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 314          RK    1100    .036    .045            TRAP      10      10
              *

 315          KK  52C9C1
 316          KM   COMBINE 52C7R AND 52C8R
 317          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 10

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

 318          KK  52C9R1
 319          KM   ROUTE 52C9C1 THROUGH SUBBASIN 52C9 TO CP 52C9C2
 320          RK    1050    .036    .045            TRAP      10      10
              *

 321          KK    52C9
 322          KM   RUNOFF FROM SUBBASIN 52C9
 323          BA    .069
 324          LS              75   31.85
 325          UK     100     .02     .10     100
 326          RK    3150    .036    .045            TRAP      30      10
              *

 327          KK  52C9C2
 328          KM   COMBINE 52C9R1 AND 52C9
 329          HC       2
              *

 330          KK  52C9R2
 331          KM   ROUTE 52C9C2 THROUGH SUBBASIN 52C10 TO CP 52C10C1
 332          RK     500    .032    .045            TRAP      10      10
```

```
                 *

 333             KK  2C10C1
 334             KM   COMBINE 52C9R2 AND 52C6R
 335             HC       2
                 *

 336             KK  2C10R1
 337             KM   ROUTE 52C10C1 THROUGH SUBBASIN 52C10 TO CP 52C10C2
 338             RK     300    .032    .045            TRAP      10      10
                 *

 339             KK   52C10
 340             KM   RUNOFF FROM SUBBASIN 52C10
 341             BA    .014
 342             LS              75    7.85
 343             UK     100     .02     .10     100
 344             RK     800    .032    .045            TRAP      30      10
                 *

 345             KK  2C10C2
 346             KM   COMBINE 52C10R1 AND 52C10
 347             HC       2
                 *

 348             KK   52C11
 349             KM   RUNOFF FROM SUBBASIN 52C11
 350             BA   .0425
 351             LS              75      27
 352             UK     100     .02     .10     100
 353             RK    2800    .031    .045            TRAP      30      10
                 *
1                                          HEC-1 INPUT                                                    PAGE 11

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

 354             KK  2C11R1
 355             KM   PIPE ROUTE 52C11 TO CP 52C11C
 356             RK     650     .02    .045            CIRC       3
                 *

 357             KK  52C13D
 358             KM   RETRIEVE DIVERTED FLOW
 359             DR   STORM
                 *

 360             KK  52C11C
 361             KM   COMBINE 52C13D AND 52C11R1
 362             HC       2   .0655
                 *

 363             KK  2C11CR
 364             KM   PIPE ROUTE 52C11C TO CP 52C11C2
 365             RK     750     .02    .045            CIRC       3
                 *

 366             KK  2C11C2
 367             KM   COMBINE 52C11CR AND 52C10C2
 368             HC       2
                 *

 369             KK  2C11R2
 370             KM   ROUTE 52C11C2 THROUGH SUBBASIN 52C12 TO CP 52C12C
 371             RK     700     .03    .045            TRAP      10      10
                 *

 372             KK   52C12
 373             KM   RUNOFF FROM SUBBASIN 52C12
 374             BA    .023
 375             LS              75      85
 376             UK     100     .02     .10     100
 377             RK     900     .03    .045            TRAP      30      10
                 *

 378             KK  52C12C
 379             KM   COMBINE 52C11R2 AND 52C12
 380             HC       2
                 *

 381             KK  52C12R
 382             KM   ROUTE 52C12C THROUGH SUBBASIN 52C14 TO CP 52C14C1
 383             RK    1150    .029    .045            TRAP      10      10
                 *

 384             KK  52C14B
 385             KM   RUNOFF FROM SUBBASIN 52C14B
 386             BA    .021
 387             LS              75      60
 388             UK     100     .02     .10     100
 389             RK    1250    .029    .045            TRAP      30      10
                 *
1                                          HEC-1 INPUT                                                    PAGE 12

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

```
390          KK  C14BC1
391          KM   COMBINE 52C14B AND 52C12R
392          HC       2
             *

393          KK  C14BC2
394          KM   COMBINE 52C14BC1 AND 52C14AR
395          HC       2
             *

396          KK  52C14R
397          KM   ROUTE 52C14C3 WEST IN BEARDSLEY CHANNEL TO CP 52B5C2
398          RK     600   .0143    .035            TRAP      50        4
             *

399          KK  51B2DV
400          KM   RETRIEVE DIVERTED FLOW
401          DR  51B2DV
             *

402          KK   51B3D
403          KM   DIVERT 84 PERCENT OF 51B2DV TO WEST (16 PERCENT TO SOUTH)
404          DT  51B3DV
405          DI       0   10000
406          DQ       0    8400
             *

407          KK   51B3R
408          KM   ROUTE 51B3D THROUGH SUBBASIN 52B1 TO CP 52B1C
409          RK     600    .039    .045            TRAP      10       10
             *

410          KK    52B1
411          KM   RUNOFF FROM SUBBASIN 52B1
412          BA    .003
413          LS              75       27
414          UK     100     .02      .10     100
415          RK     600    .039    .045            TRAP      30       10
             *

416          KK   52B1C
417          KM   COMBINE 51B3R AND 52B1
418          HC       2   .0736
             *

419          KK   52B1R
420          KM   ROUTE 52B1C THROUGH SUBBASIN 52B2 TO CP 52B2C1
421          RK     930    .037    .045            TRAP      10       10
             *
```



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

422          KK  51B3DV
423          KM   RETRIEVE DIVERTED FLOW 51B3DV
424          DR  51B3DV
             *

425          KK   51B4D
426          KM   DIVERT 82 PERCENT OF 51B3DV TO WEST (18 PERCENT TO SOUTH)
427          DT  51B4DV
428          DI       0   10000
429          DQ       0    8200
             *

430          KK  51B4R1
431          KM   ROUTE 51B4D THROUGH SUBBASIN 52B2 TO CP 52B2C1
432          RK    1350    .037    .045            TRAP      10       10
             *

433          KK  52B2C1
434          KM   COMBINE 51B4R1 AND 52B1R
435          HC       2   .1403
             *

436          KK  52B2R1
437          KM   ROUTE 52B2R1 THROUGH SUBBASIN 52B2 TO CP 52B2C2
438          RK    1000    .037    .045            TRAP      10       10
             *

439          KK    52B2
440          KM   RUNOFF FROM SUBBASIN 52B2
441          BA    .032
442          LS              75       17
443          UK     100     .02      .10     100
444          RK    2350    .037    .045            TRAP      30       10
             *

445          KK  52B2C2
446          KM   COMBINE 52B2 AND 52B2R1
447          HC       2
             *
```

```
448          KK  52B2R2
449          KM   ROUTE 52B2C2 THROUGH SUBBASIN 52B3 TO CP 52B3C2
450          RK     850    .026    .045            TRAP      10      10
             *

451          KK  52B3R1
452          KM   ROUTE 52B3C1 THROUGH SUBBASIN 52B3 TO CP 52B3C2
453          RK     500    .024    .045            TRAP      10      10
             *
```



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

454          KK    52B3
455          KM   RUNOFF FROM SUBBASIN 52B3
456          BA    .062
457          LS              75    31.8
458          UK     100     .02     .10     100
459          RK    3450    .030    .045            TRAP      30      10
             *

460          KK  52B3C2
461          KM   COMBINE 52B3 AND 52B3R1
462          HC       2
             *

463          KK  52B3R2
464          KM   ROUTE 52B3C2 THROUGH 52B4 TO CP 52B4C
465          RK    1700    .024    .045            TRAP      10      10
             *

466          KK    52B4
467          KM   RUNOFF FROM SUBBASIN 52B4
468          BA    .026
469          LS              75      62
470          UK     100     .02     .10     100
471          RK    1700    .024    .045            TRAP      30      10
             *

472          KK   52B4C
473          KM   COMBINE 52B4 AND 52B3R2
474          HC       2
             *

475          KK   52B4R
476          KM   ROUTE 52B4C THROUGH SUBBASIN 52B5 TO CP 52B5C1
477          RK     550    .027    .045            TRAP      10      10
             *

478          KK    52B5
479          KM   RUNOFF FROM SUBBASIN 52B5
480          BA    .021
481          LS              75    56.9
482          UK     100     .02     .10     100
483          RK    1400     .03    .045            TRAP      30      10
             *

484          KK  52B5C1
485          KM   COMBINE 52B5 AND 52B4R
486          HC       2
             *
```



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

487          KK  52B5C2
488          KM   COMBINE 52B5C1 AND 52C14R
489          HC       2
             *

490          KK   52B5R
491          KM   ROUTE 52B5C2 IN BEARDSLEY CHANNEL TO CP 52B7C2
492          RK    1100   .0143    .035            TRAP      50       4
             *

493          KK  51B4DV
494          KM   RETRIEVE DIVERTED FLOW 51B4DV
495          DR  51B4DV
             *

496          KK   51B5D
497          KM   DIVERT 68 PERCENT OF 51B4DV TO WEST (32 PERCENT TO SOUTH)
498          DT  51B5DV
499          DI       0   10000
500          DQ       0    6800
             *

501          KK   51B5R
502          KM   ROUTE 51B5D THROUGH SUBBASIN 52B6 TO CP 51B7C
503          RK    1250    .035    .045            TRAP      10      10
             *
```

```
 504          KK  51B5DV
 505          KM   RETRIEVE DIVERTED FLOW
 506          DR  51B5DV
              *

 507          KK   51B6D
 508          KM   DIVERT 53 PERCENT OF 51B5DV TO WEST (47 PERCENT TO SOUTH)
 509          DT  51B6DV
 510          DI       0   10000
 511          DQ       0    5300
              *

 512          KK   51B6R
 513          KM   ROUTE 51B6D THROUGH SUBBASIN 52B6 TO CP 51B7C
 514          RK     925    .033    .045            TRAP      10      10
              *

 515          KK  51B6DV
 516          KM   RETRIEVE DIVERTED FLOW 51B6DV
 517          DR  51B6DV
              *
1                                   HEC-1 INPUT                                          PAGE 16

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

 518          KK   51B7D
 519          KM   DIVERT 58 PERCENT OF 51B6DV TO WEST (42 PERCENT TO SOUTH)
 520          DT  51B7DV
 521          DI       0   10000
 522          DQ       0    5800
              *

 523          KK  51B7R1
 524          KM   ROUTE 51B7D THROUGH SUBBASIN 52B6 TO CP 51B7C
 525          RK     530    .033    .045            TRAP      10      10
              *

 526          KK   51B7C
 527          KM   COMBINE 51B7R1, 51B5R, AND 51B6R
 528          HC       3   .2404
              *

 529          KK  51B7R2
 530          KM   ROUTE 51B7C THROUGH SUBBASIN 52B6 TO CP 52B6C
 531          RK    2300    .033    .045            TRAP      10      10
              *

 532          KK    52B6
 533          KM   RUNOFF FROM SUBBASIN 52B6
 534          BA    .096
 535          LS              75   13.55
 536          UK     100     .02     .10     100
 537          RK    3200    .033    .045            TRAP      30      10
              *

 538          KK   52B6C
 539          KM   COMBINE 51B7R2 AND 52B6
 540          HC       2
              *

 541          KK   52B6R
 542          KM   ROUTE 52B6C THROUGH SUBBASIN 52B7 TO CP 52B7C1
 543          RK    2750    .028    .045            TRAP      10      10
              *

 544          KK    52B7
 545          KM   RUNOFF FROM SUBBASIN 52B7
 546          BA    .080
 547          LS              75   78.45
 548          UK     100     .02     .10     100
 549          RK    2750    .028    .045            TRAP      30      10
              *

 550          KK  52B7C1
 551          KM   COMBINE 52B7 AND 52B6R
 552          HC       2
              *
1                                   HEC-1 INPUT                                          PAGE 17

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

 553          KK  52B7C2
 554          KM   COMBINE 52B7C1 AND 52B5R
 555          HC       2
              *

 556          KK    52A2
 557          KM   RUNOFF FROM SUBBASIN 52A2
 558          BA    .065
 559          LS              75    88.8
 560          UK     100     .02     .10     100
 561          RK    2900    .023    .045            TRAP      30      10
              *
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```
562          KK  52A2C2
563          KM   COMBINE 52B7C2 AND 52A2
564          HC       2    1.62
             *

565          KK  51B7DV
566          KM   RETRIEVE DIVERTED FLOW 51B7DV
567          DR  51B7DV
             *

568          KK   51B8R
569          KM   ROUTE 51B7DV THROUGH SUBBASIN 52A1 TO CP 52A1C
570          RK    3400    .033    .045            TRAP      10      10
             *

571          KK    52A1
572          KM   RUNOFF FROM SUBBASIN 52A1
573          BA    .130
574          LS              75   32.25
575          UK     100     .02     .10     100
576          RK    3400    .033    .045            TRAP      30      10
             *

577          KK   52A1C
578          KM   COMBINE 52A1 AND 51B8R
579          HC       2
             *
             *
             *     ******************  END DC RANCH WATERSHED  ********************
             *
             *
             *     ******************  BEGIN GVSCE MODIFICATIONS  ******************
             *

580          KK   D51.1
581          KM   RETRIEVE DIVERTED FLOW
582          DR  B51.1T
             *
1                                          HEC-1 INPUT                                                PAGE 18

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

583          KK    C52A
584          KM     COMBINE ROUTED HYDROGRAPH FROM C51.1 WITH HYDROGRAPH FROM C52A1C AT
585          KM     THOMPSON PEAK PARKWAY
586          HC       2  1.2600
             *
             *   R52A
             *    DEER VALLEY BASIN OUTLET CONDUIT TO JUNCTION AT SIERRA PINTA CHANNEL
             *    NO ROUTING IN CONDUIT.
             *       L = 3130 feet
             *

587          KK     C52
588          KM     COMBINE ROUTED HYDROGRAPH FROM C52A WITH HYDROGRAPH FROM C52A2C AT
589          KM     BEARDSLEY ROAD
590          HC       2  2.9025
             *

591          KK     R52
592          KM     LAG THE HYDROGRAPH BY ONE TIME STEP TO ACCOUNT FOR TRAVEL TIME IN THE
593          KM     CONDUIT.
594          KM        ASSUME WAVE CELERITY = 15-20 fps AND TOTAL LENGTH OF 4050'
595          RT                      1
             *
             *

596          KK    D52T
597          KM     DIVERT 100% OF FLOW TO RETRIEVE JUST U/S OF THE PIMA FREEWAY EAST-BASIN
598          DT    B52T
599          DI       0   10000
600          DQ       0   10000
             *

601          KK   CLEAR
602          KM     CLEAR HYDROGRAPHS FROM STACK
603          HC       2
             *
             *
             *     ******************  BEGIN GRAYHAWK WATERSHED  ******************
             *
             *       THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
             *           DEI FILE NAME:  GH23FAB.H1I
             *           MODEL DATE:     21 MAY 96
             *

604          KK      1B
605          KM        RUNOFF FROM INTERIM SUBBASIN 1B
606          BA  0.3573
607          LS            73.5      15
608          UK     300    0.02    0.13     100
609          RK    1420    0.02   0.045   0.015    TRAP       5      10
610          RK    7000    0.02    0.04            TRAP      10       5
```

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

                *
 611            KK   37AE1      CP
 612            KM        ROUTE NON-DIVERTED FLOW FROM DIV 37AE THROUGH SUB 5N.  THIS IS A
 613            KM        PRELIMINARY CHANNEL CONFIGURATION FOR THE GOLF COURSE CHANNEL.
 614            RS       1    FLOW
 615            RC    .055    .045    .055    800    .025
 616            RX       0      16      26     30      40      44      54      70
 617            RY       6       2       2      0       0       2       2       6
                *

 618            KK   SUB5N
 619            KM        RUNOFF FROM SUBBASIN 5 IN NORTH 18 MODEL.
 620            BA   0.029
 621            LS              77      18
 622            UK    100    .013     .15     100
 623            RK   1000   0.005    .018    .015    TRAP      50      20
 624            RK    500    .015    .025            TRAP      10       4
                *

 625            KK    CP5N
 626            KM        ADD HYDROGRAPHS AT CP5N
 627            HC       2
                *

 628            KK   RET5N
 629            KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 5.  18" PIPE OUTFLOW WILL
 630            KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
 631            RS       1    STOR       0       0
 632            SV       0     .04     .33     .93     1.8    2.35    3.16     4.2     6.1
 633            SQ       0       8      10      12      15      17     102     191     668
 634            SE    1797    1798    1800    1802    1804    1805    1806    1807    1808
                *

 635            KK   R6N.1
 636            KM        ROUTE FLOW FROM CP5 TO CP6 IN NORTH 18 MODEL
 637            KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
 638            KM        CHANNEL.
 639            RS       1    FLOW
 640            RC    .055    .045    .055   2200    .025
 641            RX       0      16      26     30      40      44      54      70
 642            RY       6       2       2      0       0       2       2       6
                *

 643            KK   SUB6B
 644            KM        RUNOFF FROM WEST PORTION OF EXISTING SUB6N ADJACENT TO CHANNEL
 645            BA    .032
 646            LS              81       0
 647            UK    200    .025     .15     100
 648            RK   1300    .015    .025            TRAP      10       4
                *
```



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

 649            KK    SR6B
 650            KM        ROUTE FLOW THROUGH RETENTION BASIN IN DRIVING RANGE CHANNEL
 651            RS       1    STOR       0       0
 652            SV       0     .17     .57    1.12    1.78
 653            SQ       0       8      10     120     380
 654            SE    1772    1773    1774    1775    1776
                *

 655            KK   CP6.1
 656            KM        ADD HYDROGRAPHS AT CP6.1
 657            HC       2
                *

 658            KK   SUB1N
 659            KM        RUNOFF FROM SUBBASIN 1N
 660            BA    .019
 661            LS              77      18
 662            UK    100    .013     .15     100
 663            RK   1470   .0204    .018            TRAP      50      20
                *

 664            KK    R2NA
 665            KM        ROUTE FLOW FROM CP1 TO CP2NA
 666            RS       1    FLOW
 667            RC     .03     .03     .03     400    .025
 668            RX       0       8      13      17      22      26      31      39
 669            RY       4       2       2       0       0       2       2       4
                *

 670            KK  SUB2NA
 671            KM        RUNOFF FROM SUBBASIN 2NA
 672            BA    .015
 673            LS              81       0
 674            UK    150    .013     .15     100
 675            RK   1050   .0215    .025            TRAP      20       6
```

```
                 *
676              KK   CP2NA
677              KM        ADD HYDROGRAPHS AT CP2NA
678              HC       2
                 *

679              KK   SR2NA
680              KM        ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NA
681              RS       1    STOR       0       0
682              SV       0    .076    .291    .708     1.2
683              SQ       0       0       0       0     160
684              SE    1772    1773    1774    1775    1776
                 *
1                                          HEC-1 INPUT                                                PAGE 21

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


685              KK    R2NB
686              KM        ROUTE FLOW FROM CP2NA TO CP2NB
687              RS       1    FLOW
688              RC     .03     .03     .03    1050    .015
689              RX       0       8      13      17      22      26      31      39
690              RY       4       2       2       0       0       2       2       4
                 *

691              KK  SUB2NB
692              KM        RUNOFF FROM SUBBASIN 2NB
693              BA     .03
694              LS              77      53
695              UK     150    .013     .15     100
696              RK    1200    .015    .025            TRAP      20      50
                 *

697              KK   CP2NB
698              KM        ADD HYDROGRAPHS AT CP2NB
699              HC       2
                 *

700              KK   SR2NB
701              KM        STORAGE ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NB
702              RS       1    STOR       0       0
703              SV       0     .19     .69    1.66    3.23     4.5
704              SQ       0       2       8      12      17     170
705              SE    1796    1798    1800    1802    1804    1805
                 *

706              KK   RCP4N
707              KM        ROUTE FLOW FROM CP2NB TO CP4N
708              RS       1    FLOW
709              RC     .03     .03     .03     740    .018
710              RX       0       8      13      17      22      26      31      39
711              RY       4       2       2       0       0       2       2       4
                 *

712              KK   SUB6N
713              KM        RUNOFF FROM SUBBASIN 6 IN NORTH 18 MODEL.  TO LAKE NORTH OF CLUBHOUSE.
714              BA    .049
715              LS              81       0
716              UK     200    .025     .15     100
717              RK    1300    .015    .025            TRAP      10       4
                 *

718              KK   RET6N
719              KM        RETENTION ROUTING THROUGH LAKE AT HOLE 18, NORTH COURSE.
720              RS       1    STOR
721              SV       0    3.01    6.64   10.75   13.09   15.90
722              SQ       0       0       0      10      26     100
723              SE    1782    1784    1786    1788    1789    1790
                 *
1                                          HEC-1 INPUT                                                PAGE 22

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


724              KK  RCP4N1
725              KM        ROUTE FLOW FROM CP6N TO CP4N
726              RS       1    FLOW
727              RC     .03     .03     .03     550    .018
728              RX       0       8      13      17      22      26      31      39
729              RY       4       2       2       0       0       2       2       4
                 *

730              KK  CP4N.1
731              KM        ADD HYDROGRAPHS AT CP4N.1
732              HC       2
                 *

733              KK   SUB3N
734              KM        RUNOFF FROM SUBBASIN 3N, NORTH 18 MODEL
735              BA    .027
736              LS              81       0
737              UK     100     .02     .15     100
738              RK    2800  0.0207    .025            TRAP      10       4
```

```
                *

 739            KK   RET3N
 740            KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 3.  18" PIPE OUTFLOW WILL
 741            KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
 742            RS       1    STOR       0       0
 743            SV       0    1.73    8.97   13.32   15.74
 744            SQ       0       4       7       9      11
 745            SE    1793    1795    1800    1803    1804
                *

 746            KK     R4N
 747            KM        ROUTE FLOW FROM CP3N TO CP4N IN NORTH MODEL
 748            RS       1    FLOW
 749            RC    .035    .035    .035     950    .018
 750            RX       0       8      13      17      22      26      31      39
 751            RY       4       2       2       0       0       2       2       4
                *

 752            KK  CP4N.2
 753            KM        ADD HYDROGRAPHS AT CPN.2
 754            HC       2
                *

 755            KK   SUB4N
 756            KM        RUNOFF FROM SUBBASIN 4N.
 757            BA    .032
 758            LS              77      18
 759            UK     100    .015     .15     100
 760            RK    1200   0.007    .018            TRAP      50      20
                *
1                                          HEC-1 INPUT                                          PAGE 23

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

 761            KK    CP4N
 762            KM        ADD HYDROGRAPHS AT CP4N
 763            HC       2
                *

 764            KK     R6N
 765            KM        ROUTE FLOW FROM CP4N TO CP6N ALONG THOMPSON PEAK PKWY AT CLUBHOUSE
 766            RS       1    FLOW
 767            RC    .045    .035    .045     750    .025
 768            RX       0       8      13      17      22      26      31      39
 769            RY       4       2       2       0       0       2       2       4
                *

 770            KK   SUB6A
 771            KM        RUNOFF FROM SUBBASIN 6A (CLUBHOUSE AREA NORTH OF THOMPSON PEAK PKWY).
 772            BA    .013
 773            LS              83      68
 774            UK     100    .015     .12     100
 775            RK     800     .01    .025            TRAP       2       3
                *

 776            KK   CP6.2
 777            KM        ADD HYDROGRAPHS AT CP6.2
 778            HC       2
                *

 779            KK    CP6N
 780            KM        ADD HYDROGRAPHS AT CP6N
 781            HC       2
                *
                *       ABOVE DISCHARGE FROM NORTH 18 THROUGH BRIDGE AT TPP STATION 103+45
                *

 782            KK   RCP6N
 783            KM        ROUTE FLOW FROM CP6N TO CP3C
 784            RS       1    FLOW
 785            RC    .045    .035    .045     300    .015
 786            RX       0       8      13      17      37      45      51      59
 787            RY       4       2       2       0       0       2       2       4
                *

 788            KK   SUB3C
 789            KM        RUNOFF FROM SUBBASIN 3C, SOUTH COURSE AT MAINTENANCE FACILITY.
 790            BA   .0104
 791            LS              77      68
 792            UK     100    .025     .02     100
 793            RK     600    .015    .035            TRAP      50      20
                *
1                                          HEC-1 INPUT                                          PAGE 24

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

 794            KK    CP3C
 795            KM        COMBINE NORTH COURSE HYDROGRAPH WITH FIRST SOUTH COURSE HYDROGRAPH
 796            HC       2
                *

 797            KK     R3C
```

```
798          KM        ROUTE FLOW FROM SUB3C TO CP3 THROUGH GC1018
799          KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
800          KM        CHANNEL.
801          RS       1    FLOW
802          RC    .055    .045    .055    2050    .025
803          RX       0      20      30      40      60      70      80     100
804          RY    1650    1746    1744    1742    1742    1744    1746    1750
             *

805          KK  GC1018
806          KM        RUNOFF FROM HOLES NO. 10, 18 AND DRIVING RANGE THAT CONTRIBUTE TO WASH
807          BA    .044
808          LS              81       0
809          UK     200    .025     .15     100
810          RK    1800   .0233    .025            TRAP      10       4
             *

811          KK   GC1-9
812          KM        RUNOFF FROM GOLF COURSE HOLES 1 & 9 CONTRIBUTING TO WASH
813          BA    .026
814          LS              81       0
815          UK     200    .025     .15     100
816          RK    2110    .022    .025            TRAP      10       4
             *

817          KK   SUB3S
818          KM        RUNOFF FROM SUB BASIN 3 SOUTH COURSE
819          BA   .0102
820          LS              77      53
821          UK     100    .010     .15     100
822          RK     930    .016    .025            TRAP      50      20
             *

823          KK    CP3S
824          KM        COMBINE HYDROGRAPHS AT CP3 SOUTH COURSE
825          HC       4
             *

826          KK    RT3S
827          KM        ROUTE FLOW FROM CP3S TO CPGC28
828          RS       1    FLOW       0       0
829          RC    .055    .045    .055     900    .023
830          RX       0      20      30      40      60      70      80     100
831          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *
```



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

832          KK   SUB4S
833          KM        RUNOFF FROM SUB BASIN 4 SOUTH COURSE
834          BA   .0273
835          LS              77      53
836          UK     100    .010     .15     100
837          RK    1780    .018    .015            TRAP      50      20
             *

838          KK    RT4S
839          KM        ROUTE FLOW FROM CP4S TO CPGC28
840          RS       1    FLOW       0       0
841          RC    .035    .035    .035     650    .015
842          RX       0      20      30      40      45      55      65      75
843          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *

844          KK   GC2-8
845          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES NO. 2 AND 8
846          BA    .014
847          LS              81       0
848          UK     200    .025     .15     100
849          RK     980    .016    .025            TRAP      10       4
             *

850          KK  1PGC28
851          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
852          HC       3
             *

853          KK  SUB3D3
854          KM        RUNOFF FROM GRAYHAWK ROAD SOUTH OF THOMPOSON PEAK
855          BA    .014
856          LS              81       0
857          UK      50    .015      .1     100
858          RK    2450    .016    .025            TRAP       5       4
             *

859          KK  CPGC28
860          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
861          HC       2
             *

862          KK  SRGC28
863          KM        STORAGE THRU DETENTION BASIN ON HOLES 2 AND 8.
864          RS       1    STOR       0       0
```

```
865          SV      0    .018    .085     .22      .5     1.0     1.7    2.68     3.9
866          SE   1706    1707    1708    1709    1710    1711    1712    1713    1714
867          SQ      0      10      18      20      30     108     324     651    1070
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

868          KK    RT7S
869          KM        ROUTE FLOW FROM SRGC28 TO CP7S
870          RS       1    STOR       0       0
871          RC    .055    .045    .055    1700   .0187
872          RX       0      20      30      40      60      70      80     100
873          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *

874          KK     GC7
875          KM        RUNOFF FROM SOUTH GOLF COURSE HOLE NO. 7
876          BA   .0134
877          LS              81       0
878          UK     200    .025     .15     100
879          RK    1380    .020    .025            TRAP      10       4
             *

880          KK    CP7S
881          KM        ADD HYDROGRAPHS AT CP7S ON SOUTH COURSE
882          HC       2  0.7626
             *

883          KK    D7ST
884          KM        D7ST IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
885          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
886          KM
887          KM        DIVERT 100% OF FLOW
888          DT    B7ST
889          DI       0   10000
890          DQ       0   10000
             *

891          KK   CLEAR
892          KM        CLEAR HYDROGRAPHS FROM THE STACK.
893          HC       2
             *
             *
             * THIS PORTION OF MODEL TAKEN FROM,"DRAINAGE REPORT FOR VILLAGE 3 - PHASE 1",
             * APPROVED BY THE CITY OF SCOTTSDALE 7-19-95.  MODIFIED TO ACCOUNT FOR ASBUILT
             * CONDITION
             *
             *
             *
             *

894          KK  SUB3D1
895          KM        RUNOFF FROM SUBBASIN 3D1, PARCEL 3D.
896          BA   .0088
897          LS              77      34
898          UD     .06
             *
```



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

899          KK   RD1B1
900          KM        FOUTE FLOW FROM 3D1 TO 3B1
901          RS       1    FLOW      -1
902          RC    0.03    0.03    0.03    1250    .015
903          RX       0     0.5       1       7      12      19    19.5      20
904          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
             *

905          KK  SUB3B1
906          KM        RUNOFF FROM SUBBASIN 3B1, PARCEL 3B.
907          BA   .0137
908          LS              77      47
909          UD     .06
             *

910          KK   CP3B1
911          KM        ADD HYDROGRAGHS AT CP3B1
912          HC       2
             *

913          KK   RB13F
914          KM        ROUTE FLOW FROM 3B1 TO SUB3F
915          RS       1    FLOW      -1
916          RC    0.03    0.03    0.03    2150    .015
917          RX       0     0.5       1       7      17      24    24.5      25
918          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
             *

919          KK   SUB3F
920          KM        RUNOFF FROM SUBBASIN 3F, PARCEL 3F, SOUTH COURSE MODEL.
921          BA   .0344
```

```
 922          LS              77      68
 923          UK     100    .025     .15     100
 924          RK    1000    .015    .025            TRAP     100      20
              *

 925          KK    CP3F
 926          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3F ALONG THE POWER CORRIDOR
 927          HC       2
              *

 928          KK  SUB3B2
 929          KM        RUNOFF FROM SUBBASIN 3B2, PARCEL 3B.
 930          BA   .0246
 931          LS              77      40
 932          UD     .10
              *

 933          KK   RB2E1
 934          KM        1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
 935          RS       1    FLOW      -1
 936          RC    0.03    0.03    0.03     800    0.02
 937          RX       0     0.5       1       7      17      24    24.5      25
 938          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
              *
1                                          HEC-1 INPUT                                          PAGE 28

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

 939          KK   RB2E2
 940          KM       SECOND 1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
 941          RS       1    FLOW      -1
 942          RC    0.03    0.03    0.03     600    .015
 943          RX       0     0.5       1       7      17      24    24.5      25
 944          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
              *

 945          KK  SUB3E1
 946          KM        RUNOFF FROM SUBBASIN 3E1, PARCEL 3E.
 947          BA   .0246
 948          LS              77      40
 949          UD     .10
              *

 950          KK  1CPE31
 951          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E1 ALONG THE POWER CORRIDOR
 952          HC       2
              *

 953          KK  SUB3D2
 954          KM        RUNOFF FROM SUBBASIN 3D2, PARCEL 3D.
 955          BA    .022
 956          LS              77      35
 957          UD     .08
              *

 958          KK   RD2E2
 959          KM        ROUTE EXCESS FROM 3D2 TO CP3E2
 960          RS       1    FLOW      -1
 961          RC    0.03    0.03    0.03    1200   .0216
 962          RX       0     0.5       1       7      17      24    24.5      25
 963          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
              *

 964          KK  SUB3E2
 965          KM        RUNOFF FROM SUBBASIN 3E2, PARCEL 3E.
 966          BA    .012
 967          LS              77      35
 968          UD     .06
              *

 969          KK   CP3E2
 970          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E2 ALONG THE POWER CORRIDOR
 971          HC       2
              *

 972          KK     PC3
 973          KM        PC3 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
 974          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
 975          KM
 976          KM        RUNOFF FROM SUBBASIN PC3.
 977          BA  0.0434
 978          LS              77      10
1                                          HEC-1 INPUT                                          PAGE 29

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

 979          UK     300    .015     .15     100
 980          RK    2200     .01     .03            TRAP      30       4
              *

 981          KK    CPC3
 982          KM        CPC3 IS A CONCENTRATION POINT ADDED BY GVSCE TO ESTIMATE THE INFLOW TO
 983          KM        THE POWER LINE CHANNEL AT THE HAYDEN ROAD CROSSING.
 984          KM
```

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 985          KM        COMBINE ROUTED HYDROGRAPH FROM SRPC2 W/HYDROGRAPHS FROM CP3E1, CP3E2 AND
 986          KM        CP3F AND RUNOFF FROM PC3.
 987          HC       4  0.1835
              *

 988          KK   DPC3T
 989          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
 990          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
 991          KM
 992          KM        DIVERT 100% OF FLOW
 993          DT   BPC3T
 994          DI       0   10000
 995          DQ       0   10000
              *

 996          KK  SUB3E3
 997          KM        RUNOFF FROM SUBBASIN 3E3, PARCEL 3E.
 998          BA    .020
 999          LS              77      32
1000          UD     .06
              *

1001          KK     PC4
1002          KM        PC4 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1003          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1004          KM
1005          KM        RUNOFF FROM SUBBASIN PC4.
1006          BA  0.0217
1007          LS              77       0
1008          UK    300    .015     .15     100
1009          RK   1100     .01     .03            TRAP      30       4
              *

1010          KK     D7S
1011          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1012          KM        LOOP DETENTION BASIN VIA THE POWER LINE CHANNEL.
1013          KM
1014          KM        RETRIEVE DIVERTED FLOW
1015          DR    B7ST
              *

1016          KK    CPC4
1017          KM        THE HEC1 OPREATION TEMPAD IS CHANGED BY GVSCE TO ESTIMATE THE INFLOW TO
1018          KM        THE POWER LINE CHANNEL WHERE THE FLOW FROM CP7S ENTERS THE CHANNEL.
1019          KM
1020          KM        COMBINE HYDROGRAPH FROM CP3E3 W/RUNOFF FROM PC4.
1021          HC       3  0.8043
              *
1                                        HEC-1 INPUT                                          PAGE 30

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

1022          KK   DPC4T
1023          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1024          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1025          KM
1026          KM        DIVERT 100% OF FLOW
1027          DT   BPC4T
1028          DI       0   10000
1029          DQ       0   10000
              *

1030          KK   CLEAR
1031          KM        CLEAR HYDROGRAPHS FROM THE STACK.
1032          HC       3
              *
              *
              *       THIS ENDS THE PORTION OF THE MODEL TAKEN FROM DRAINAGE REPORT
              *       FOR VILLAGE 3 - PHASE I HEC-1 MODEL BY GILBERTSON ASSOC. INC.
              *       DATED 7-19-95
              *
              *
              *
              * RETURN TO NORTH 18\VILLAGE 2\TPP3 MODEL.
              * THE REMAINDER OF THE SUBBASINS IN THIS  MODEL  WILL CONTRIBUTE TO THE
              * PROPOSED CHANNNEL IN THE POWER EASEMENT AS IDENTIFIED IN THE
              * "COMMUNITY DRAINAGE STUDY - CORE NORTH AND WILL DISCHARGE TO REGIONAL
              * RETENTION BASIN 38R1.
              *
              *

1033          KK     1A1
1034          KM        RUNOFF FROM INTERIM SUBBASIN 1A
1035          BA  0.7465
1036          LS              70       0
1037          UK    300    0.02    0.13     100
1038          RK   1420   0.032   0.045  0.0061    TRAP       0      13
1039          RK  10800   0.033   0.045            TRAP      10       9
              *

1040          KK    R1A1
1041          KM
1042          RS       3    FLOW      -1
1043          RC   0.035   0.035   0.035    6000   0.025
```

```
1044          RX    1000    1010    1020    1030    1080    1090    1100    1110
1045          RY       3       2       1       0       0       1       2       3
              *

1046          KK     1A2
1047          KM        RUNOFF FROM INTERIM SUBBASIN 1A
1048          BA  0.6108
1049          LS            74.5      25
1050          UK     150    0.01    0.10     100
1051          RK    1000    0.02   0.025   0.028    TRAP       0      20
1052          RK    5000   0.025   0.035            TRAP      50      10
              *
1                                          HEC-1 INPUT                                                    PAGE 31

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

1053          KK     C1A
1054          KM
1055          HC       2
              *

1056          KK    R14R
1057          KM        ROUTE FLOW FROM DIVERT AT DEER VALLEY ROAD (UPSTREAM OF SUBBAIN 5) TO
1058          KM        RET14.1
1059          RS       1    FLOW
1060          RC    .055    .045    .055    2900     .01
1061          RX       0      16      26      30      50      54      64      80
1062          RY       6       2       2       0       0       2       2       6
              * RET 141 HAS BEEN REVISED FOLLOWING REFINEMENT OF GRADING PLANS 11-16-94
              *

1063          KK  RET141
1064          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.1.  18" PIPE OUTFLOW WILL
1065          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1066          RS       1    STOR       0       0
1067          SV       0     .46    2.79    4.56    5.71    6.92    8.24
1068          SQ       0      11      15      22     147     463     968
1069          SE    1778    1785    1790    1792    1793    1794    1795
              *

1070          KK   R14.1
1071          KM        ROUTE FLOW FROM RET14.1 TO CP14
1072          KM        RET14.1
1073          RS       1    FLOW
1074          RC    .055    .045    .055    1900     .01
1075          RX       0      16      26      30      50      54      64      80
1076          RY       6       2       2       0       0       2       2       6
              *

1077          KK  SUB13N
1078          KM        RUNOFF FROM SUBBASIN 13 NORTH 18 MODEL.
1079          BA    .037
1080          LS              77      24
1081          UK     100    .015     .15     100
1082          RK    2400    .007    .018            TRAP      50      20
              *

1083          KK   R14.1
1084          KM        ROUTE FLOW FROM CP13 TO RET14 NORTH 18 MODEL.
1085          RS       1    FLOW
1086          RC    .055    .045    .055     950    .025
1087          RX       0       8      13      17      22      26      31      39
1088          RY       4       2       2       0       0       2       2       4
              *
1                                          HEC-1 INPUT                                                    PAGE 32

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

1089          KK  SUB14N
1090          KM        RUNOFF FROM SUBBASIN 14 NORTH 18 MODEL.
1091          BA    .049
1092          LS              81       0
1093          UK     300    .025     .15     100
1094          RK    2300     .01    .025            TRAP      10       4
              *

1095          KK    CP14
1096          KM        ADD HYDROGRAPHS AT CP14
1097          HC       3
              *

1098          KK   RET14
1099          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.  18" PIPE OUTFLOW WILL
1100          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1101          RS       1    STOR       0       0
1102          SV       0     .08     .31    1.01    2.16    3.20    4.19    5.69     7.8
1103          SQ       0      14      16      18      20      22     155     464     750
1104          SE    1744    1746    1748    1750    1752    1753    1754    1755    1756
              *

1105          KK   R18.1
1106          KM        ROUTE FLOW FROM RET14 TO CP18
1107          RS       1    FLOW
```

```
1108          RC    .055    .045    .055     500    .016
1109          RX       0      16      26      34      54      68      78      96
1110          RY       6       2       2       0       0       2       2       6
              *

1111          KK  SUB20N
1112          KM        RUNOFF FROM SUBBASIN 20.
1113          BA    .024
1114          LS              77      24
1115          UK     200     .01     .15     100
1116          RK    1400     .02    .018            TRAP      50      20
              *

1117          KK     R19
1118          KM        ROUTE FLOW FROM CP20 TO CP19
1119          RS       1    FLOW
1120          RC    .035    .035    .035     700     .02
1121          RX       0       8      13      17      22      26      31      39
1122          RY       4       2       2       0       0       2       2       4
              *

1123          KK  SUB19N
1124          KM        RUNOFF FROM SUBBASIN 19.
1125          BA    .038
1126          LS              77      31
1127          UK     150     .01     .15     100
1128          RK    1800    .015    .018            TRAP      50      20
              *
```



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

1129          KK   CP19N
1130          KM        ADD HYDROGRAPHS  AT CP19N
1131          HC       2
              *

1132          KK   R18NC
1133          KM        ROUTE FLOW FROM  CP19N TO CP18NC
1134          RS       1    FLOW
1135          RC    .035    .035    .035     700    .013
1136          RX       0       8      13      17      27      31      36      44
1137          RY       4       2       2       0       0       2       2       4
              *

1138          KK  UB18NC
1139          KM        RUNOFF FROM SUBBASIN 18NC.
1140          BA    .021
1141          LS              77      42
1142          UK     100     .01     .15     100
1143          RK    1550     .02    .018            TRAP      50      20
              *

1144          KK  CP18NC
1145          KM        ADD HYDROGRAPHS  AT CP18NC (INCLUDES R18.1, R18, AND SUB18)
1146          HC       3
              *

1147          KK    RPC1
1148          KM        ROUTE FLOW FROM CP18N TO CPC1.
1149          RS       1    FLOW
1150          RC    .035    .035    .035     510    .013
1151          RX       0      16      26      34      64      78      88     106
1152          RY       6       2       2       0       0       2       2       6
              *

1153          KK  UB18NA
1154          KM        RUNOFF FROM SUBBASIN 18NA.
1155          BA    .022
1156          LS              77      42
1157          UK     100     .01     .15     100
1158          RK    1450     .02    .018            TRAP      50      20
              *

1159          KK   1RPC1
1160          KM        ROUTE FLOW FROM CP18NA TO CPC1.
1161          RS       1    FLOW
1162          RC    .035    .035    .035    2550     .01
1163          RX       0      16      26      34      64      78      88     106
1164          RY       8       4       2       0       0       2       4       8
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1165          KK  UB18NB
1166          KM        RUNOFF FROM SUBBASIN 18NB.
1167          BA   .0096
1168          LS              77      42
1169          UK     100     .01     .15     100
1170          RK     800     .02    .018            TRAP      50      20
              *
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```
1171          KK   2RPC1
1172          KM        ROUTE FLOW FROM CP18NB TO CPC1.
1173          RS       1    FLOW
1174          RC    .035    .035    .035    2000     .01
1175          RX       0      16      26      34      64      78      88     106
1176          RY       8       4       2       0       0       2       4       8
              *

1177          KK     PC1
1178          KM        RUNOFF FROM SUBBASIN PC1.
1179          BA    .062
1180          LS              77      10
1181          UK     500    .015     .15     100
1182          RK    2700     .01     .03            TRAP      30       4
              *

1183          KK   1CPC1
1184          KM        ADD HYDROGRAPHS  AT CPC1.
1185          HC       3
              *

1186          KK   SRPC1
1187          KM        STOAGE ROUTE THROUGH DET BASIN IN POWER CORRIDOR.
1188          RS       1    STOR       0       0
1189          SV       0     .29     .73
1190          SQ       0       0     350
1191          SE    1747    1748    1749
              *

1192          KK    CPC1
1193          KM        ADD HYDROGRAPHS  AT CPC1.
1194          HC       2
              *

1195          KK  R16NA1
1196          KM        ROUTE FLOW FROM CPC1 TO C16NA1.
1197          RS       1    FLOW
1198          RC    .035    .035    .035     700    .013
1199          RX       0      16      26      34      74      88      98     116
1200          RY       8       4       2       0       0       2       4       8
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1201          KK  UB16NA
1202          KM        RUNOFF FROM SUBBASIN 16NA.
1203          BA   .0139
1204          LS              77      42
1205          UK     100    .015     .15     100
1206          RK    1500    .015    .022            TRAP      50      20
              *

1207          KK  R16NA1
1208          KM        ROUTE FLOW FROM CP16NA TO CP16NA1.
1209          RS       1    FLOW
1210          RC    .035    .035    .035     550    .013
1211          RX       0      16      26      34      44      58      68      86
1212          RY       6       2       2       0       0       2       2       6
              *

1213          KK  C16NA1
1214          KM        ADD HYDROGRAPHS  AT CP16NA1.
1215          HC       2
              *

1216          KK  R16NB1
1217          KM        ROUTE FLOW FROM CP16NA1 TO CP16NB1.
1218          RS       1    FLOW
1219          RC    .035    .035    .035     650    .013
1220          RX       0      16      26      34      74      88      98     116
1221          RY       8       4       2       0       0       2       4       8
              *

1222          KK  UB16NB
1223          KM        RUNOFF FROM SUBBASIN 16NB.
1224          BA   .0156
1225          LS              77      42
1226          UK     100    .015     .15     100
1227          RK    1500    .015    .022            TRAP      50      20
              *

1228          KK  R16NB1
1229          KM        ROUTE FLOW FROM CP16NB TO CP16NB1.
1230          RS       1    FLOW
1231          RC    .035    .035    .035     550    .013
1232          RX       0      16      26      34      44      58      68      86
1233          RY       6       2       2       0       0       2       2       6
              *

1234          KK  C16NB1
1235          KM        ADD HYDROGRAPHS  AT CP16NB1.
1236          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1237          KK  R16NC1
1238          KM        ROUTE FLOW FROM CP16NB1 TO CP16NC1.
1239          RS       1    FLOW
1240          RC    .035    .035    .035     650    .013
1241          RX       0      16      26      34      54      68      78      96
1242          RY       6       2       2       0       0       2       2       6
              *

1243          KK   SUB7N
1244          KM        RUNOFF FROM SUBBASIN 7N.
1245          BA    .031
1246          LS              77      18
1247          UK     100    .015     .15     100
1248          RK    1900     .01    .018            TRAP      50      20
              *

1249          KK    R8NC
1250          KM        ROUTE FLOW FROM CP7N TO CP8NC.
1251          RS       1    FLOW
1252          RC    .055    .045    .055     700    .025
1253          RX       0       8      13      17      22      26      31      39
1254          RY       4       2       2       0       0       2       2       4
              *

1255          KK  SUB8NA
1256          KM        RUNOFF FROM SUBBASIN 8NA.
1257          BA   .0046
1258          LS              81       0
1259          UK     100     .03     .15     100
1260          RK     450     .03    .025            TRAP      20       6
              *

1261          KK   SR8NA
1262          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NA.
1263          RS       1    STOR       0       0
1264          SV       0     .51    .816
1265          SQ       0       1      43
1266          SE    1791    1795    1796
              *

1267          KK    R8NB
1268          KM        ROUTE FLOW FROM CP8NA TO CP8NB.
1269          RS       1    FLOW
1270          RC    .025    .025    .025     300     .03
1271          RX       0      12      24      36      56      68      80      92
1272          RY       6       4       2       0       0       2       4       6
              *

1273          KK  SUB8NB
1274          KM        RUNOFF FROM SUBBASIN 8NB.
1275          BA   .0142
1276          LS              81       0
1277          UK     100     .03     .15     100
1278          RK    1150    .025    .025            TRAP      20       6
              *
```



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

1279          KK   CP8NB
1280          KM        ADD HYDROGRAPHS AT CP8NB.
1281          HC       2
              *

1282          KK   SR8NB
1283          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NB.
1284          RS       1    STOR       0       0
1285          SV       0   .0124   1.754    2.45
1286          SQ       0       2       2      72
1287          SE    1784    1785    1790    1791
              *

1288          KK    R8NC
1289          KM        ROUTE FLOW FROM CP8NB TO CP8NC.
1290          RS       1    FLOW
1291          RC    .025    .025    .025     500     .03
1292          RX       0      12      24      36      56      68      80      92
1293          RY       6       4       2       0       0       2       4       6
              *

1294          KK  SUB8NC
1295          KM        RUNOFF FROM SUBBASIN 8NC.
1296          BA   .0182
1297          LS              81       0
1298          UK     100     .03     .15     100
1299          RK     900     .03    .025            TRAP      20       6
              *

1300          KK   CP8NC
```

```
1301          KM        ADD HYDROGRAPHS AT CP8NC.
1302          HC       3
              *

1303          KK   SR8NC
1304          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NC.
1305          RS       1    STOR       0       0
1306          SV       0    .404   2.444    3.13   3.979
1307          SQ       0      10      14     151    1004
1308          SE    1771    1775    1780    1781    1782
              *

1309          KK     R9N
1310          KM        ROUTE FLOW FROM CP8N TO CP9N.
1311          RS       1    FLOW
1312          RC    .025    .025    .025    1150    .025
1313          RX       0       8      13      17      22      26      31      39
1314          RY       4       2       2       0       0       2       2       4
              *
1                                          HEC-1 INPUT                                                    PAGE 38

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

1315          KK   SUB9N
1316          KM        RUNOFF FROM SUBBASIN 9N.
1317          BA    .055
1318          LS              77      28
1319          UK     100    .008     .15     100
1320          RK    1700     .01    .018            TRAP      50      20
              *

1321          KK    CP9N
1322          KM        ADD HYDROGRAPHS AT CP9N
1323          HC       2
              *

1324          KK    R10B
1325          KM        ROUTE FLOW FROM CP9N TO CP10B.
1326          RS       1    FLOW
1327          RC     .03     .03     .03     400     .02
1328          RX       0       8      16      24      29      37      45      53
1329          RY       6       4       2       0       0       2       4       6
              *

1330          KK  SUB10B
1331          KM        RUNOFF FROM SUBBASIN 10B.
1332          BA    .028
1333          LS              77      42
1334          UK     100    .015     .15     100
1335          RK     350    .008    .018            TRAP      50      20
1336          RK     600    .008    .025            TRAP      10       4
              *

1337          KK   CP10B
1338          KM        ADD HYDROGRAPHS AT CP10B
1339          HC       2
              *

1340          KK   R11NA
1341          KM        ROUTE FLOW FROM CP10B TO CP11NA.
1342          RS       1    FLOW
1343          RC     .03     .03     .03     200     .04
1344          RX       0       8      16      24      29      37      45      53
1345          RY       6       4       2       0       0       2       4       6
              *

1346          KK  UB11NA
1347          KM        RUNOFF FROM SUBBASIN 11NA.
1348          BA   .0076
1349          LS              81       0
1350          UK     100    .025     .15     100
1351          RK     500     .03    .025            TRAP      30       6
              *
1                                          HEC-1 INPUT                                                    PAGE 39

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

1352          KK  CP11NA
1353          KM        ADD HYDROGRAPHS AT CP11NA
1354          HC       2
              *

1355          KK  SR11NA
1356          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NA.
1357          RS       1    STOR       0       0
1358          SV       0   .0462   1.425   2.480   3.109   3.856
1359          SQ       0      10      27      27      27     237
1360          SE    1734    1735    1740    1742    1743    1744
              *

1361          KK   R11NB
1362          KM        ROUTE FLOW FROM CP11NA TO CP11NB.
1363          RS       1    FLOW
```

```
1364          RC    .025    .025    .025     250     .03
1365          RX       0      12      24      36      56      68      80      92
1366          RY       6       4       2       0       0       2       4       6
              *

1367          KK  UB11NB
1368          KM        RUNOFF FROM SUBBASIN 11NB.
1369          BA   .0078
1370          LS              81       0
1371          UK     100     .04     .15     100
1372          RK     700    .025    .025            TRAP      30       6
              *

1373          KK  CP11NB
1374          KM        ADD HYDROGRAPHS AT CP11NB
1375          HC       2
              *

1376          KK  SR11NB
1377          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NB.
1378          RS       1    STOR       0       0
1379          SV       0    1.56   2.586
1380          SQ       0      27     111
1381          SE    1732    1737    1738
              *

1382          KK   R11NC
1383          KM        ROUTE FLOW FROM CP11NB TO CP11NC.
1384          RS       1    FLOW
1385          RC    .025    .025    .025     300     .03
1386          RX       0      12      24      36      56      68      80      92
1387          RY       6       4       2       0       0       2       4       6
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1388          KK  UB11NC
1389          KM        RUNOFF FROM SUBBASIN 11NC.
1390          BA   .0069
1391          LS              81       0
1392          UK     100     .03     .15     100
1393          RK     650    .028    .025            TRAP      20       5
              *

1394          KK  C11NC1
1395          KM        ADD HYDROGRAPHS AT CP11NC.1
1396          HC       2
              *

1397          KK  SUB10A
1398          KM        RUNOFF FROM SUBBASIN 10A.
1399          BA    .030
1400          LS              77      42
1401          UK     100    .015     .15     100
1402          RK     350    .008    .018            TRAP      50      20
1403          RK     800    .008    .025            TRAP      10       4
              *

1404          KK   R12NB
1405          KM        ROUTE FLOW FROM CP10A TO CP12NB.
1406          RS       1    FLOW
1407          RC    .025    .025    .025     400     .03
1408          RX       0      12      24      36      46      58      70      82
1409          RY       6       4       2       0       0       2       4       6
              *

1410          KK  UB12NA
1411          KM        RUNOFF FROM SUBBASIN 12NA.
1412          BA   .0153
1413          LS              81       0
1414          UK     150    .025     .15     100
1415          RK     650    .017    .025            TRAP      30       6
              *

1416          KK  SR12NA
1417          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB1NA.
1418          RS       1    STOR       0       0
1419          SV       0    2.16   3.426   5.071
1420          SQ       0       1       2     142
1421          SE    1741    1745    1746    1747
              *

1422          KK   R12NA
1423          KM        ROUTE FLOW FROM CP12NA TO CP12NB.
1424          RS       1    FLOW
1425          RC    .025    .025    .025     550    .025
1426          RX       0      12      24      36      46      58      70      82
1427          RY       6       4       2       0       0       2       4       6
              *
```



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

```
1428          KK  UB12NB
1429          KM        RUNOFF FROM SUBBASIN 12NB.
1430          BA   .0157
1431          LS              81       0
1432          UK     150    .025     .15     100
1433          RK     650    .017    .025            TRAP      30       6
              *

1434          KK  CP12NB
1435          KM        ADD 3 HYDROGRAPHS AT CP12NB
1436          HC       3
              *

1437          KK  SR12NB
1438          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB12NB.
1439          RS       1    STOR       0       0
1440          SV       0    .922    4.24    7.53
1441          SQ       0       2       2     142
1442          SE    1741    1745    1746    1747
              *

1443          KK  R11NC2
1444          KM        ROUTE FLOW FROM CP12NA TO CP11NC.
1445          RS       1    FLOW
1446          RC    .025    .025    .025     550     .01
1447          RX       0      12      24      36      46      58      70      82
1448          RY       6       4       2       0       0       2       4       6
              *

1449          KK  CP11NC
1450          KM        ADD HYDROGRAPHS  AT CP11NC
1451          HC       2
              *

1452          KK  SR11NC
1453          KM        ROUTE FLOW THROUGH RETENTION BASIN RT11NC.  18" PIPE OUTFLOW WILL
1454          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1455          RS       1    STOR       0       0
1456          SV       0   1.665   2.303   3.062
1457          SQ       0      27     111     344
1458          SE    1730    1735    1736    1737
              *

1459          KK   R16NC
1460          KM        ROUTE FLOW FROM CP11NC TO CP16NC.
1461          RS       1    FLOW
1462          RC    .035    .035   0.035     950    .025
1463          RX       0       8      13      17      22      26      31      39
1464          RY       4       2       2       0       0       2       2       4
              *
```



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

1465          KK  UB16NC
1466          KM        RUNOFF FROM SUBBASIN 16NC.
1467          BA   .0337
1468          LS              77      42
1469          UK     100    .015     .15     100
1470          RK    1600    .015    .022            TRAP      50      20
              *

1471          KK  CP16NC
1472          KM        ADD HYDROGRAPHS  AT CP16NC
1473          HC       2
              *

1474          KK  R16NC1
1475          KM        ROUTE FLOW FROM CP16NC TO CP16NC1.
1476          RS       1    FLOW
1477          RC     .03     .03     .03     550    .013
1478          RX       0      16      26      34      44      58      68      86
1479          RY       6       2       2       0       0       2       2       6
              *

1480          KK  C16NC1
1481          KM        ADD HYDROGRAPHS  AT CP16NC1.
1482          HC       2
              *

1483          KK   R15N1
1484          KM        ROUTE FLOW FROM CP16NC1 TO CP15N1.
1485          RS       1    FLOW
1486          RC    .035    .035    .035     600    .013
1487          RX       0      16      26      34      54      68      78      96
1488          RY       6       2       2       0       0       2       2       6
              *

1489          KK     PC2
1490          KM        RUNOFF FROM SUBBASIN PC2.
1491          BA    .054
1492          LS              77      10
1493          UK     100    .015     .15     100
```

```
1494          RK    2700     .01     .03            TRAP      50       4
              *

1495          KK  CP15N1
1496          KM        ADD HYDROGRAPHS  AT CP15N1
1497          HC       2
              *

1498          KK   SRPC2
1499          KM        STORAGE ROUTE THRU DETENTION BASINS IN POWER CORRIDOR THIS IS THE TOTAL
1500          KM        FLOW REACHING THE UPSTREAM SIDE OF THE THOMPSON PEAK PARKWAY BRIDGE
1501          RS       1    STOR       0       0
1502          SV       0    1.02    2.70    4.48     5.8     6.9
1503          SQ       0       0     150     350     550     850
1504          SE    1730    1731    1732    1733    1734    1735
              *
1                                          HEC-1 INPUT                                          PAGE 43

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

1505          KK  UB17NA
1506          KM        RUNOFF FROM SUBBASIN SUB17NA.
1507          BA  .00979
1508          LS              81       0
1509          UK     150    .025     .05     100
1510          RK     960   .0292    .025            TRAP      30      50
              *

1511          KK  SR17NA
1512          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NA.
1513          RS       1    STOR       0       0
1514          SV       0   .0078    .241    .523    1.00   1.735
1515          SQ       0       1       1       1    17.4     251
1516          SE  1755.2    1756    1758    1759    1760    1761
              *

1517          KK   R17NB
1518          KM        ROUTE FLOW FROM SR17NA TO CP17NB.
1519          RS       1    FLOW
1520          RC    0.03    0.03    0.03     280  0.0286
1521          RX       0      10      20      35      70      85      90     100
1522          RY    1757  1756.8  1756.6    1756    1756    1757    1758    1759
              *

1523          KK  UB17NB
1524          KM        RUNOFF FROM SUBBASIN SUB17NB.
1525          BA   .0111
1526          LS              81       0
1527          UK     150    .025     .05     100
1528          RK    1200   .0217    .025            TRAP      30      50
              *

1529          KK  CP17NB
1530          KM        ADD HYDROGRAPHS AT SUB17NB.
1531          HC       2
              *

1532          KK  SR17NB
1533          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NB.
1534          RS       1    STOR       0       0
1535          SV       0   .0113   .1469    .635   .9795   1.509   2.254   3.243
1536          SQ       0       1       1       1       1       1    38.2     189
1537          SE  1751.5    1752    1753    1755    1756    1757    1758    1759
              *

1538          KK    R17A
1539          KM        ROUTE FLOW FROM SR17NB TO CP17A.
1540          RS       1    FLOW
1541          RC    0.03    0.03    0.03     280   0.033
1542          RX       0      15      18      20      24      27      30      35
1543          RY    1755    1754    1753    1752    1752    1753    1754    1755
              *
1                                          HEC-1 INPUT                                          PAGE 44

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

1544          KK  SUB17A
1545          KM        RUNOFF FROM SUBBASIN SUB17A.
1546          BA  .00792
1547          LS              77      34
1548          UK      75     .03     .05     100
1549          RK    1500     .02    .025            TRAP       8       4
              *

1550          KK  CP17A1
1551          KM        ADD HYDROGRAPHS AT CP17A1.
1552          HC       2
              *

1553          KK  UB17NC
1554          KM        RUNOFF FROM SUBBASIN SUB17NC.
1555          BA  .00559
1556          LS              77      12
```

```
1557          UK      75     .03     .05     100
1558          RK     910   .0187    .025            TRAP       8       4
              *

1559          KK   CP17A
1560          KM        ADD ALL HYDROGRAPHS AT CP17A.
1561          HC       2
              *

1562          KK    R15N
1563          KM        ROUTE FLOW FROM CP17A TO CP15N.
1564          RS       1    FLOW
1565          RC    .035     .035    .035    1950    .025
1566          RX       0       8      13      17      22      26      31      39
1567          RY       4       2       2       0       0       2       2       4
              *

1568          KK  SUB15N
1569          KM        RUNOFF FROM SUBBASIN 15N.
1570          BA   .0391
1571          LS              77      68
1572          UK     100     .01     .15     100
1573          RK     400    .008    .018            TRAP      50      20
1574          RK    1700    .015    .025            TRAP      10       4
              *

1575          KK   CP15N
1576          KM        ADD HYDROGRAPHS  AT CP15N
1577          HC       2
              *

1578          KK   R15N2
1579          KM        ROUTE FLOW FROM CP15N TO CP15N1.
1580          RS       1    FLOW
1581          RC     .02      .02     .02     700    .013
1582          RX       0       8      13      17      22      26      31      39
1583          RY       6       2       2       0       0       2       2       6
              *
```



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

1584          KK  CP15N2
1585          KM        ADD HYDROGRAPHS  AT CP15N1
1586          KM        THIS IS THE INTERIM OUTFLOW DISCHARGE TO NATURAL WASH.
1587          HC       2  2.0449
              *

1588          KK   R15N2
1589          KM        ROUTE 15N2 IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CP15N2 TO THE
1590          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1591          KM
1592          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1593          RS       1    FLOW      -1
1594          RC    .035     .035    .035    2200    .013
1595          RX       0      16      26      34      64      78      88     106
1596          RY       6       2       2       0       0       2       2       6
              *

1597          KK    DPC3
1598          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1599          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1600          KM
1601          KM        RETRIEVE DIVERTED FLOW
1602          DR   BPC3T
              *

1603          KK   CPC3A
1604          KM        COMBINE CPC3A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE AT THE
1605          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1606          KM
1607          KM        COMBINE ROUTED HYDROGRAPH FROM CP15N2 WITH HYDROGRAPH FROM CPC3
1608          HC       2  2.2284
              *

1609          KK   RPC3A
1610          KM        ROUTE PC3A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC3A VIA
1611          KM        THE POWER LINE CHANNEL.
1612          KM
1613          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1614          RS       1    FLOW      -1
1615          RC    .035     .035    .035    1100    .013
1616          RX       0      16      26      34      64      78      88     106
1617          RY       6       2       2       0       0       2       2       6
              *

1618          KK    DPC4
1619          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1620          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1621          KM
1622          KM        RETRIEVE DIVERTED FLOW
1623          DR   BPC4T
              *
```

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

1624          KK   CPC4A
1625          KM        COMBINE CPC4A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE IN THE
1626          KM        POWER LINE CHANNEL
1627          KM
1628          KM        COMBINE ROUTED HYDROGRAPH FROM CPC3A WITH HYDROGRAPH FROM CPC4
1629          HC       2  3.0327
              *

1630          KK   RPC4A
1631          KM        ROUTE PC4A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC4A TO THE
1632          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI RD.
1633          KM
1634          KM        ROUTE FLOW FROM CPC4A TO CPC5.
1635          RS       1    FLOW      -1
1636          RC    .035    .035    .035    1900    .013
1637          RX       0      16      26      34      64      78      88     106
1638          RY       6       2       2       0       0       2       2       6
              *

1639          KK  DPC4AT
1640          KM        DIVERT PC4A IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1641          KM        FREEWAY EAST-BASIN VIAL THE POWER LINE CHANNEL.
1642          KM
1643          KM        DIVERT 100% OF FLOW
1644          DT  BPC4AT
1645          DI       0   10000
1646          DQ       0   10000
              *

1647          KK  SUB1-2
1648          KM        RUNOFF FROM SUB 1 AND 2, SOUTH COURSE MODEL
1649          BA   .0558
1650          LS              77      68
1651          UK    200    .010     .15     100
1652          RK   1370    .027    .015            TRAP      50      20
              *

1653          KK  GCRB18
1654          KM        RUNOFF FROM GOLF COURSE CONTRIBUTING TO RETENTION BASIN AT HOLE NO. 18
1655          KM        AND HOLE NO. 10, SOUTH COURSE
1656          BA    .012
1657          LS              81       0
1658          UK    200    .025     .15     100
1659          RK    300    .016    .025            TRAP      10       4
              *

1660          KK  CPRET1
1661          KM        COMBINE HYDROGRAPHS AT RETENTION BASINS ON HOLE 18 & 10
1662          HC       2
              *
```



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

1663          KK   SR18S
1664          KM        STORAGE ROUTE THRU RETENTION BASIN AT HOLE 18, SOUTH COURSE
1665          RS       1    STOR       0       0
1666          SV       0  1.7635  5.7722  12.174  21.337  28.849  30.151      32
1667          SE    1725    1730    1735    1740    1745    1748    1749    1750
1668          SQ       0       0       0       0       0      42     386     900
              *

1669          KK   SUB5S
1670          KM        RUNOFF FROM SUB 5S
1671          BA   .0263
1672          LS              77      31
1673          UK    100    .010     .15     100
1674          RK   1280    .007    .015            TRAP      50      20
              *

1675          KK  GC1216
1676          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 12, 16, AND 17
1677          BA   .0365
1678          LS              81       0
1679          UK    200    .025     .15     100
1680          RK   2200    .024    .025            TRAP      10       4
              *

1681          KK  GC1415
1682          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 13, 14, 15 AND RETENTION
1683          BA    .045
1684          LS              81       0
1685          UK    200    .025     .15     100
1686          RK   1300    .022    .025            TRAP      10       4
              *

1687          KK   SUB6S
1688          KM        RUNOFF FROM SUB BASIN 6, SOUTH COURSE
1689          BA    .021
1690          LS              77      42
```

```
1691          UK     100     .010     .15     100
1692          RK    2150     .013    .025            TRAP      50      20
              *

1693          KK   SUB7S
1694          KM        RUNOFF FROM SUB BASIN 7, SOUTH COURSE
1695          BA    .027
1696          LS              77       42
1697          UK     100     .010     .15     100
1698          RK    2080     .023    .025            TRAP      50      20
              *

1699          KK  CPRET2
1700          KM        COMBINE HYDROGRAPHS AT RETENTION BASIN 2, SOUTH COURSE
1701          HC       5
              *
1                                          HEC-1 INPUT                                                PAGE 48

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


1702          KK  SRRET2
1703          KM        STORAGE THRU RETENTION BASIN NO. 2, SOUTH COURSE
1704          RS       1    STOR        0        0
1705          SV       0     .617   3.474   9.858  20.063  35.353  52.685  57.749      62
1706          SE    1670    1675    1680    1685    1690    1695    1699    1700    1701
1707          SQ       0       0       0       0       0       0      32     386     594
              *
              *       NO FLOW RELEASED FROM RETENTION BASIN
              *

1708          KK   CLEAR
1709          KM        THIS OPERATION IS ADDED BY GVSCE
1710          KM
1711          KM        CLEAR HYDROGRAPHS FROM THE STACK
1712          HC       2
              *

1713          KK   SUB8S
1714          KM        RUNOFF FROM SUB BASIN 8, SOUTH COURSE
1715          BA   .0256
1716          LS              77       42
1717          UK     100     .010     .15     100
1718          RK    1600     .015    .025            TRAP      50      20
              *

1719          KK   RGC36
1720          KM        ROUTE SUB8S TO CPGC36
1721          RS       1    FLOW
1722          RC    .055     .045    .055     850     .02
1723          RX       0       16      26      30      40      44      54      70
1724          RY       6        2       2       0       0       2       2       6
              *

1725          KK    GC36
1726          KM        RUNOFF FROM SOUTH COURSE HOLES 3, 6, AND NORTH HALF OF HOLE 4.
1727          BA   .0406
1728          LS              81        0
1729          UK     200     .025     .15     100
1730          RK    2350     .015    .035            TRAP      10       4
              *

1731          KK  C1GC36
1732          KM        COMBINE SUBS 8 AND GC36
1733          HC       2
              *

1734          KK   SUB9S
1735          KM        RUNOFF FROM SUB BASIN 9, SOUTH COURSE
1736          BA    .021
1737          LS              77       53
1738          UK     100     .010     .15     100
1739          RK    1100     .013    .025            TRAP      50      20
              *
1                                          HEC-1 INPUT                                                PAGE 49

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


1740          KK     R9S
1741          KM        ROUTE SUB9S TO CPGC36
1742          RS       1    FLOW
1743          RC    .035     .035    .035     500     .02
1744          RX       0        8      12      16      18      22      26      30
1745          RY       6        4       3       2       2       3       4       6
              *

1746          KK  CPGC36
1747          KM        COMBINE SUBS 8 AND 9 SOUTH AND GC36
1748          HC       2
              *

1749          KK  SRGC36
1750          KM        STORAGE THRU DETENTION BASIN ON GC36
1751          RS       1    STOR        0        0
```

```
1752          SV       0    0.85     1.0
1753          SE    1664    1668    1669
1754          SQ       0      20     205
              *

1755          KK   SUB7A
1756          KM        RUNOFF FROM SUB7A, SOUTH COURSE EAST SIDE ADJACENT TO PIMA ROAD
1757          BA   .0092
1758          LS              77      42
1759          UK     100    .025     .15     100
1760          RK     950    .015    .025            TRAP      50      20
              *

1761          KK    SR7A
1762          KM        STORAGE THRU DETENTION BASIN ON SUB7A
1763          RS       1    STOR       0       0
1764          SV       0     .68      .8
1765          SE    1700    1703    1704
1766          SQ       0      10     150
              *

1767          KK    R10S
1768          KM        ROUTE FLOW FROM CP7A TO CP10S
1769          RS       1    FLOW
1770          RC    .035    .035    .035    1400    .015
1771          RX       0       8      12      16      18      22      26      30
1772          RY       6       4       3       2       2       3       4       6
              *

1773          KK  SUB10S
1774          KM        RUNOFF FROM SUB BASIN 10, SOUTH COURSE
1775          BA   .0248
1776          LS              77      53
1777          UK     100    .010     .15     100
1778          RK    1150    .020    .025            TRAP      50      20
              *
1                                        HEC-1 INPUT                                          PAGE 50

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

1779          KK   CP10S
1780          KM        COMBINE HYDROGRAPHS AT CP10 SOUTH COURSE
1781          HC       2
              *

1782          KK  SUB11S
1783          KM        RUNOFF FROM SUB11, SOUTH COURSE
1784          BA   .0234
1785          LS              77      68
1786          UK     100    .015    .018     100
1787          RK    1050    .015    .025            TRAP     100      20
              *

1788          KK    R11S
1789          KM        ROUTE 11S IS ADDED BY GVSCE TO ROUTE THE RUNOFF FROM SUB11S TO THE
1790          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI DR ALONG HUALAPAI DR.
1791          KM
1792          KM        ROUTE FLOW FROM SUB11S TO CPC5.
1793          RS       1    FLOW      -1
1794          RC    .035    .035    .035     900    .015
1795          RX       0       8      12      16      18      22      26      30
1796          RY       6       4       3       2       2       3       4       6
              *

1797          KK   C10SA
1798          KM        COMBINE 10SA IS ADDED BY GVSCE
1799          KM
1800          KM        COMBINE ROUTED HYDROGRAPH FROM 11S WITH HYDROGRAPH FROM CP10S
1801          HC       2
              *

1802          KK   R10SA
1803          KM        ROUTE 10SA IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1804          KM        FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1805          KM
1806          KM        ROUTE FLOW FROM C10SAS TO CPC5.
1807          RS       1    FLOW      -1
1808          RC    .035    .035    .035     900    .015
1809          RX       0       8      12      16      18      22      26      30
1810          RY       6       4       3       2       2       3       4       6
              *

1811          KK    GC45
1812          KM        RUNOFF FROM SOUTH COURSE HOLES 4 AND 5
1813          BA   .0127
1814          LS              81       0
1815          UK     200    .015    .025     100
1816          RK     550    .015    .035            TRAP      10       4
              *
1                                        HEC-1 INPUT                                          PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1817          KK   CGC45
1818          KM        COMBINE CGC45 IS ADDED BY GVSCE
1819          KM
1820          KM        COMBINE ROUTED HYDROGRAPH FROM 10SA WITH RUNOFF FROM GC45
1821          HC       2
              *

1822          KK     PC5
1823          KM        PC5 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1824          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1825          KM
1826          KM        RUNOFF FROM SUBBASIN PC5.
1827          BA  0.0375
1828          LS              77       0
1829          UK     300     .015     .15     100
1830          RK    1900      .01     .03            TRAP      30       4
              *

1831          KK   DPC4A
1832          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1833          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1834          KM
1835          KM        RETRIEVE DIVERTED FLOW
1836          DR  BPC4AT
              *

1837          KK    CPC5
1838          KM        COMBINE PC5 IS ADDED BY GVSCE TO ESTIMATE THE TOTAL FLOW IN THE POWER
1839          KM        LINE CHANNEL AT THE HUALAPAI CROSSING.  THE COMBINED AREA DOES NOT
1840          KM        INCLUDE 0.2236 SQUARE MILES OF AREA DRAINING TO RETENTION BASINS.
1841          KM
1842          KM        COMBINE ROUTED HYDROGRAPH FROM C10SA AND CPC4A WITH HYDROGRAPHS FROM
1843          KM        CGC45, SRGC36 AND PC5
1844          HC       5  3.0039
              *
              *     ******************  END GRAYHAWK WATERSHED  ********************
              *

1845          KK     RC5
1846          KM       ROUTE CPC5 THROUGH SUBBASIN CN5C TO PIMA FREEWAY EAST-BASIN
1847          RS       1    FLOW      -1
1848          RC    .035    .035    .035    2000    .013
1849          RX       0      16      26      34      64      78      88     106
1850          RY       6       2       2       0       0       2       2       6
              *

1851          KK   SCN5D
1852          KM     RUNOFF FROM SUBBASIN CN5D
1853          BA  0.0499
1854          LS              74       0
1855          UK     100   0.025    0.13     100
1856          RK    3100   0.017    0.04            TRAP       0      15
              *
1                                          HEC-1 INPUT                                                    PAGE 52

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

1857          KK    CN5D
1858          KM        COMBINE ROUTED HYDROGRAPH FROM CPC5 W/RUNOFF FROM SCN5D
1859          HC       2
              *

1860          KK     D52
1861          KM     BRING BACK DIVERTED HYDROGRAPH FROM R52
1862          DR    B52T
              *

1863          KK    S53A
1864          KM     RUNOFF FROM SUBBASIN 53A
1865          BA  0.1794
1866          LS              74      11
1867          UK     300   0.022    0.13     100
1868          RK    1475   0.026   0.045  0.0111    TRAP       3       5
1869          RK    1750   0.021    0.04            TRAP      25       5
              *

1870          KK     C53
1871          KM     COMBINE ROUTED HYDROGRAPH FROM FROM C52 WITH RUNOFF FROM SUBBASIN 53A
1872          HC       2  3.0819
              *
              *    R53
              *   ****  TOO SHORT TO ROUTE  ****
              *

1873          KK   S53A1
1874          KM     RUNOFF FROM SUBBASIN 53A1
1875          BA  0.3376
1876          LS              74      12              74      30
1877          UK     300   0.022    0.13      70
1878          UK     150   0.027    0.13      30
1879          RK    1250   0.023   0.045  0.0087    TRAP       4       5
1880          RK    5050   0.017    0.04            TRAP      35       5
              *
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```
1881          KK    C53A
1882          KM     COMBINE ROUTED HYDROGRAPH FROM C53 WITH RUNOFF FROM SUBBASSIN 53A1
1883          HC       2
              *

1884          KK   SCN6B
1885          KM     RUNOFF FROM SUBBASIN CN6B (WATER CAMPUS)
1886          KM      TOTAL AREA = 0.0542 sm, 0.0022 sm OF THAT IS NON-CONTRIBUTING
1887          BA  0.0520
1888          LS              74       80              74        0
1889          UK     150    0.01     0.15      70
1890          UK     100   0.025     0.13      30
1891          RK     720    0.02     0.03  0.0084    TRAP        5       10
1892          RK     700    0.01    0.045  0.0050    TRAP        0       10
1893          RK     440   0.009    0.035            TRAP        6        3
              *
1                                          HEC-1 INPUT                                                    PAGE 53

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

1894          KK   SCN6D
1895          KM     RUNOFF FROM SUBBASIN CN6D
1896          KM      TOTAL AREA = 0.0398 sm, 0.0029 sm OF THAT IS NON-CONTRIBUTING
1897          BA  0.0369
1898          LS              74        3
1899          UK     100   0.025     0.13     100
1900          RK    1000   0.017     0.04            TRAP        0       15
              *

1901          KK    CP6D
1902          KM     COMBINE HYDROGRAPHS FROM C53A W/RUNOFF FROM SCN6D
1903          HC       3
              *

1904          KK   SCN6C
1905          KM     RUNOFF FROM SUBBASIN CN6C (CAP TREATMENT PLANT AND WATER CAMPUS)
1906          KM      TOTAL AREA = 0.1526 sm, 0.0138 sm OF THAT IS NON-CONTRIBUTING
1907          BA  0.1388
1908          LS              74       80              74        0
1909          UK     150    0.01     0.15      50
1910          UK     100   0.025     0.13      50
1911          RK    1500    0.01     0.03  0.0123    TRAP        5       10
1912          RK     700   0.017     0.04            TRAP        0       15
              *

1913          KK    CP6C
1914          KM        COMBINE HYDROGRAPH FROM CP6D W/RUNOFF FROM SCN6C
1915          HC       2
              *

1916          KK    CP5D
1917          KM        COMBINE HYDROGRAPHS FROM CP6C AND CP5D
1918          HC       2
              *

1919          KK   SCN5C
1920          KM     RUNOFF FROM SUBBASIN CN5C
1921          BA  0.1904
1922          LS              74        0
1923          UK     150   0.020     0.13     100
1924          RK    3700  0.0176     0.04            TRAP        0       15
              *

1925          KK   SCN6E
1926          KM     RUNOFF FROM SUBBASIN CN6E
1927          BA  0.0427
1928          LS              74        5
1929          UK      50    0.01     0.13     100
1930          RK    3200   0.002    0.025            TRAP        0       50
              *
1                                          HEC-1 INPUT                                                    PAGE 54

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

1931          KK  EAST-I
1932          KM     COMBINE HYDROGRAPH FROM CP5D WITH W/RUNOFF FROM SCN5C AND SCN6E
1933          HC       3
              *

1934          KK  EAST-O
1935          KM     PIMA FREEWAY BASIN EAST LOCATED NORTH AND EAST OF HAYDEN ROAD T.I.
1936          KM      (2) 96" OUTLET CONDUIT
1937          KM         STAGE-DISCHARGE RATING CURVE REFLECTS 50% CLOGGING OF THE TRASHRACK.
1938          KM         9 ACRE-FEET OF STORAGE FOR SEDIMENTAION
1939          KM
1940          RS       1    STOR      -1        0
1941          SV       0    0.35    1.11     3.38    12.19    24.00    36.81    43.59    50.74    58.38
1942          SV   66.49   74.88   83.50    92.36   101.45   110.78   120.36   130.25   140.48   145.06
1943          SQ       0      66     127      281      515      791     1047     1161     1263     1355
1944          SQ    1442    1522    1598     1671     1740     1805     1871     1932     1991     2020
1945          SE  1589.9    1591    1592     1594     1596     1598     1600     1601     1602     1603
1946          SE    1604    1605    1606     1607     1608     1609     1610     1611     1612   1612.5
              *
```

```
          1947          ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   25       S51.1
                V
                V
   34      DVDB-O
                .
                .
   49           .-------> B51.1T
   47      D51.1T
                .
                .
   52           .       52D4
                .          V
                .          V
   58           .      52D4R
                .          .
                .          .
   61           .          .      52D4B
                .          .          .
                .          .          .
   67           .     52D5C1............
                .          .
                .          .
   70           .          .      52D5A
                .          .          V
                .          .          V
   76           .          .     52D5AR
                .          .          ¦
                .          .          ¦
   79           .     52D5C2............
                .          V
                .          V
   82           .      52D5R
                .          .
                .          .
   85           .          .       52C3
                .          .          V
                .          .          V
   91           .          .      52C3R
                .          .          .
                .          .          .
   94           .          .          .       52C3B
                .          .          .          .
                .          .          .          .
  100           .          .     2C3BC1............
                .          .          .
                .          .          .
  103           .     2C3BC2............
                .          V
                .          V
  106           .     52C3BR
                .          .
                .          .
  109           .          .        51C
                .          .          .
                .          .          .
  119           .          .          .-------> 51C1DV
  117           .          .      51C1D
                .          .          V
                .          .          V
  122           .          .      51C1R
                .          .          .
                .          .          .
  125           .          .          .        52C1
                .          .          .          .
                .          .          .          .
  131           .          .      52C1C............
                .          .          V
                .          .          V
  134           .          .      52C1R
                .          .          .
                .          .          .
  137           .          .          .       52C2A
                .          .          .          .
                .          .          .          .
  143           .          .     52C2AC............
                .          .          .
                .          .          .
  146           .          .          .       52C2B
                .          .          .          .
                .          .          .          .
  152           .          .     52C2BC............
                .          .          V
                .          .          V
  155           .          .     52C2BR
                .          .          .
                .          .          .
  158           .          .          .       52C2C
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                .          .          .          .
                .          .          .          .
164             .          .     52C2CC...........
                .          .          V
                .          .          V
167             .          .      52C2R
                .          .          .
                .          .          .
170             .          .          .       52C4
                .          .          .          .
                .          .          .          .
176             .          .     52C4C1...........
                .          .          .
                .          .          .
179             .     52C4C2...........
                .          V
                .          V
182             .      52C4R
                .          .
                .          .
185             .          .      52C13
                .          .          .
                .          .          .
193             .          .          .-------> STORM
191             .          .     2C13DV
                .          .          .
                .          .          .
196             .          .          .      52C15
                .          .          .          .
                .          .          .          .
202             .          .     2C15C1...........
                .          .          .
                .          .          .
205             .     2C15C2...........
                .          V
                .          V
208             .     52C15R
                .          .
                .          .
211             .          .     52C14A
                .          .          .
                .          .          .
217             .     2C14AC...........
                .          V
                .          V
220             .     2C14AR
                .          .
                .          .
225             .          .          .<------- 51C1DV
223             .          .     51C1DV
                .          .          .
                .          .          .
228             .          .          .-------> 51C2DV
226             .          .      51C2D
                .          .          V
                .          .          V
231             .          .      51C2R
                .          .          .
                .          .          .
234             .          .          .       52C5
                .          .          .          .
                .          .          .          .
240             .          .      52C5C...........
                .          .          V
                .          .          V
243             .          .      52C5R
                .          .          .
                .          .          .
246             .          .          .       52C6
                .          .          .          .
                .          .          .          .
252             .          .      52C6C...........
                .          .          V
                .          .          V
255             .          .      52C6R
                .          .          .
                .          .          .
260             .          .          .          .<------- 51C2DV
258             .          .          .     51C2DV
                .          .          .          V
                .          .          .          V
261             .          .          .      51C3R
                .          .          .          .
                .          .          .          .
264             .          .          .          .        51B
                .          .          .          .          .
                .          .          .          .          .
274             .          .          .          .          .-------> 51B1DV
272             .          .          .          .      51B1D
                .          .          .          .          V
                .          .          .          .          V
277             .          .          .          .      51B1R
                .          .          .          .          .
                .          .          .          .          .
280             .          .          .          .          .       52C7
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                .          .          .          .          .          .
                .          .          .          .          .          .
286             .          .          .     52C7C.......................
                .          .          .         V
                .          .          .         V
289             .          .          .     52C7R
                .          .          .         .
                .          .          .         .
294             .          .          .         .          .<-------  51B1DV
292             .          .          .         .     51B1DV
                .          .          .         .          .
                .          .          .         .          .
297             .          .          .         .          .------->  51B2DV
295             .          .          .         .     51B2D
                .          .          .         .          V
                .          .          .         .          V
300             .          .          .         .     51B2R
                .          .          .         .          .
                .          .          .         .          .
303             .          .          .         .          .       52C8
                .          .          .         .          .          .
                .          .          .         .          .          .
309             .          .          .         .     52C8C............
                .          .          .         .          V
                .          .          .         .          V
312             .          .          .         .     52C8R
                .          .          .         .          .
                .          .          .         .          .
315             .          .          .     52C9C1............
                .          .          .         V
                .          .          .         V
318             .          .          .     52C9R1
                .          .          .         .
                .          .          .         .
321             .          .          .         .       52C9
                .          .          .         .          .
                .          .          .         .          .
327             .          .          .     52C9C2............
                .          .          .         V
                .          .          .         V
330             .          .          .     52C9R2
                .          .          .         .
                .          .          .         .
333             .          .     2C10C1............
                .          .         V
                .          .         V
336             .          .     2C10R1
                .          .          .
                .          .          .
339             .          .          .      52C10
                .          .          .         .
                .          .          .         .
345             .          .     2C10C2............
                .          .          .
                .          .          .
348             .          .          .      52C11
                .          .          .         V
                .          .          .         V
354             .          .          .     2C11R1
                .          .          .         .
                .          .          .         .
359             .          .          .         .          .<-------   STORM
357             .          .          .         .     52C13D
                .          .          .         .          .
                .          .          .         .          .
360             .          .          .     52C11C............
                .          .          .         V
                .          .          .         V
363             .          .          .     2C11CR
                .          .          .         .
                .          .          .         .
366             .          .     2C11C2............
                .          .         V
                .          .         V
369             .          .     2C11R2
                .          .          .
                .          .          .
372             .          .          .      52C12
                .          .          .         .
                .          .          .         .
378             .          .     52C12C............
                .          .         V
                .          .         V
381             .          .     52C12R
                .          .          .
                .          .          .
384             .          .          .     52C14B
                .          .          .         .
                .          .          .         .
390             .          .     C14BC1............
                .          .          .
                .          .          .
393             .     C14BC2............
                .         V
                .         V
```

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396          .      52C14R
             .          .
             .          .
401          .          .          .<-------  51B2DV
399          .          .     51B2DV
             .          .          .
             .          .          .
404          .          .          .------->  51B3DV
402          .          .      51B3D
             .          .          V
             .          .          V
407          .          .      51B3R
             .          .          .
             .          .          .
410          .          .          .       52B1
             .          .          .          .
             .          .          .          .
416          .          .      52B1C............
             .          .          V
             .          .          V
419          .          .      52B1R
             .          .          .
             .          .          .
424          .          .          .          .<-------  51B3DV
422          .          .          .     51B3DV
             .          .          .          .
             .          .          .          .
427          .          .          .          .------->  51B4DV
425          .          .          .      51B4D
             .          .          .          V
             .          .          .          V
430          .          .          .     51B4R1
             .          .          .          .
             .          .          .          .
433          .          .     52B2C1............
             .          .          V
             .          .          V
436          .          .     52B2R1
             .          .          .
             .          .          .
439          .          .          .       52B2
             .          .          .          .
             .          .          .          .
445          .          .     52B2C2............
             .          .          V
             .          .          V
448          .          .     52B2R2
             .          .          V
             .          .          V
451          .          .     52B3R1
             .          .          .
             .          .          .
454          .          .          .       52B3
             .          .          .          .
             .          .          .          .
460          .          .     52B3C2............
             .          .          V
             .          .          V
463          .          .     52B3R2
             .          .          .
             .          .          .
466          .          .          .       52B4
             .          .          .          .
             .          .          .          .
472          .          .      52B4C............
             .          .          V
             .          .          V
475          .          .      52B4R
             .          .          .
             .          .          .
478          .          .          .       52B5
             .          .          .          .
             .          .          .          .
484          .          .     52B5C1............
             .          .          .
             .          .          .
487          .      52B5C2............
             .          V
             .          V
490          .      52B5R
             .          .
             .          .
495          .          .          .<-------  51B4DV
493          .          .     51B4DV
             .          .          .
             .          .          .
498          .          .          .------->  51B5DV
496          .          .      51B5D
             .          .          V
             .          .          V
501          .          .      51B5R
             .          .          .
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506          .          .          .          .<-------  51B5DV
504          .          .          .     51B5DV
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509             .          .          .          .-------> 51B6DV
507             .          .          .      51B6D
                .          .          .          V
                .          .          .          V
512             .          .          .      51B6R
                .          .          .          .
                .          .          .          .
517             .          .          .          .          .<-------  51B6DV
515             .          .          .          .     51B6DV
                .          .          .          .          .
                .          .          .          .          .
520             .          .          .          .          .-------> 51B7DV
518             .          .          .          .      51B7D
                .          .          .          .          V
                .          .          .          .          V
523             .          .          .          .     51B7R1
                .          .          .          .          .
                .          .          .          .          .
526             .          .      51B7C.......................
                .          .          V
                .          .          V
529             .          .     51B7R2
                .          .          .
                .          .          .
532             .          .          .       52B6
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538             .          .      52B6C............
                .          .          V
                .          .          V
541             .          .      52B6R
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544             .          .          .       52B7
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550             .          .     52B7C1............
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553             .     52B7C2............
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556             .          .       52A2
                .          .          .
                .          .          .
562             .     52A2C2............
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                .          .
567             .          .          .<-------  51B7DV
565             .          .     51B7DV
                .          .          V
                .          .          V
568             .          .      51B8R
                .          .          .
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571             .          .          .       52A1
                .          .          .          .
                .          .          .          .
577             .          .      52A1C............
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582             .          .          .          .<-------  B51.1T
580             .          .          .      D51.1
                .          .          .          .
                .          .          .          .
583             .          .       C52A............
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                .          .          .
587             .        C52............
                .          V
                .          V
591             .        R52
                .          .
                .          .
598             .          .------->   B52T
596             .       D52T
                .          .
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601       CLEAR............
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604             .         1B
                .          V
                .          V
611             .      37AE1
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618             .          .      SUB5N
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625             .       CP5N............
                .          V
                .          V
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628          .      RET5N
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635          .      R6N.1
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643          .          .      SUB6B
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649          .          .       SR6B
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655          .      CP6.1............
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658          .          .      SUB1N
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664          .          .       R2NA
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670          .          .          .      SUB2NA
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676          .          .      CP2NA............
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679          .          .      SR2NA
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685          .          .       R2NB
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691          .          .          .      SUB2NB
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697          .          .      CP2NB............
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700          .          .      SR2NB
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             .          .          V
706          .          .      RCP4N
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712          .          .          .       SUB6N
             .          .          .           V
             .          .          .           V
718          .          .          .       RET6N
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             .          .          .           V
724          .          .          .      RCP4N1
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730          .          .     CP4N.1............
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733          .          .          .       SUB3N
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739          .          .          .       RET3N
             .          .          .           V
             .          .          .           V
746          .          .          .         R4N
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752          .          .     CP4N.2............
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755          .          .          .       SUB4N
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761          .          .       CP4N............
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             .          .          V
764          .          .        R6N
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770          .          .          .       SUB6A
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776          .          .      CP6.2............
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779          .      CP6N............
             .          V
             .          V
782          .      RCP6N
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788          .          .      SUB3C
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794          .      CP3C............
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797             .        R3C
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                .          .
805             .          .     GC1018
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                .          .          .
811             .          .          .      GC1-9
                .          .          .          .
                .          .          .          .
817             .          .          .          .      SUB3S
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823             .       CP3S.................................
                .          V
                .          V
826             .       RT3S
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832             .          .      SUB4S
                .          .          V
                .          .          V
838             .          .       RT4S
                .          .          .
                .          .          .
844             .          .          .      GC2-8
                .          .          .          .
                .          .          .          .
850             .     1PGC28......................
                .          .
                .          .
853             .          .     SUB3D3
                .          .          .
                .          .          .
859             .     CPGC28............
                .          V
                .          V
862             .     SRGC28
                .          V
                .          V
868             .       RT7S
                .          .
                .          .
874             .          .         GC7
                .          .          .
                .          .          .
880             .       CP7S............
                .          .
                .          .
888             .          .-------->    B7ST
883             .       D7ST
                .          .
                .          .
891       CLEAR............
                .
                .
894             .     SUB3D1
                .          V
                .          V
899             .      RD1B1
                .          .
                .          .
905             .          .     SUB3B1
                .          .          .
                .          .          .
910             .      CP3B1............
                .          V
                .          V
913             .      RB13F
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919             .          .      SUB3F
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                .          .          .
925             .       CP3F............
                .          .
                .          .
928             .          .     SUB3B2
                .          .          V
                .          .          V
933             .          .      RB2E1
                .          .          V
                .          .          V
939             .          .      RB2E2
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945             .          .          .      SUB3E1
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                .          .          .          .
950             .          .     1CPE31............
                .          .          .
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953             .          .          .      SUB3D2
                .          .          .          V
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 958          .           .           .       RD2E2
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 964          .           .           .           .      SUB3E2
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 969          .           .           .       CP3E2............
              .           .           .           .
              .           .           .           .
 972          .           .           .           .         PC3
              .           .           .           .           .
              .           .           .           .           .
 981          .        CPC3...................................
              .           .
              .           .
 993          .           .-------->   BPC3T
 988          .       DPC3T
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              .           .
 996          .           .      SUB3E3
              .           .           .
              .           .           .
1001          .           .           .        PC4
              .           .           .           .
              .           .           .           .
1015          .           .           .           .           .<-------    B7ST
1010          .           .           .           .         D7S
              .           .           .           .           .
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1016          .           .        CPC4........................
              .           .           .
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1027          .           .           .-------->   BPC4T
1022          .           .       DPC4T
              .           .           .
              .           .           .
1030       CLEAR........................
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1033          .         1A1
              .           V
              .           V
1040          .        R1A1
              .           .
              .           .
1046          .           .         1A2
              .           .           .
              .           .           .
1053          .         C1A............
              .           V
              .           V
1056          .        R14R
              .           V
              .           V
1063          .      RET141
              .           V
              .           V
1070          .       R14.1
              .           .
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1077          .           .      SUB13N
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1083          .           .       R14.1
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1089          .           .           .      SUB14N
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1095          .        CP14........................
              .           V
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1098          .       RET14
              .           V
              .           V
1105          .       R18.1
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1111          .           .      SUB20N
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1117          .           .         R19
              .           .           .
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1123          .           .           .      SUB19N
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1129          .           .       CP19N............
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1132          .           .       R18NC
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1138          .           .           .      UB18NC
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1144   .   CP18NC.......................
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       .       V
1147   .     RPC1
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       .       .
1153   .       .     UB18NA
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1159   .       .      1RPC1
       .       .         .
       .       .         .
1165   .       .         .     UB18NB
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1171   .       .         .      2RPC1
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1177   .       .         .         .         PC1
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1183   .       .      1CPC1........................
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       .       .         V
1186   .       .      SRPC1
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1192   .     CPC1............
       .       V
       .       V
1195   .   R16NA1
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1201   .       .     UB16NA
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1207   .       .     R16NA1
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1213   .   C16NA1............
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1216   .   R16NB1
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       .       .
1222   .       .     UB16NB
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       .       .         V
1228   .       .     R16NB1
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       .       .         .
1234   .   C16NB1............
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       .       V
1237   .   R16NC1
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1243   .       .      SUB7N
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       .       .         V
1249   .       .       R8NC
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       .       .         .
1255   .       .         .     SUB8NA
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       .       .         .         V
1261   .       .         .      SR8NA
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1267   .       .         .       R8NB
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1273   .       .         .         .      SUB8NB
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1279   .       .         .      CP8NB............
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1288   .       .         .       R8NC
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1300   .       .      CP8NC........................
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1303   .       .      SR8NC
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       .       .         V
1309   .       .       R9N
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1315            .         .         .      SUB9N
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1321            .         .      CP9N...........
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1324            .         .      R10B
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1346            .         .         .     UB11NA
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1355            .         .    SR11NA
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1367            .         .         .     UB11NB
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1376            .         .    SR11NB
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1394            .         .    C11NC1...........
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1397            .         .         .     SUB10A
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1410            .         .         .          .     UB12NA
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1437            .         .         .     SR12NB
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1452            .         .    SR11NC
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1459            .         .     R16NC
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1465            .         .         .     UB16NC
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1471            .         .    CP16NC...........
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1474            .         .    R16NC1
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1480          .     C16NC1............
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1483          .      R15N1
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1495          .     CP15N1............
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1498          .      SRPC2
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1511          .         .     SR17NA
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1578          .         .      R15N2
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1584          .     CP15N2............
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1588          .      R15N2
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1602          .         .          .<-------   BPC3T
1597          .         .       DPC3
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1603          .      CPC3A............
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1609          .      RPC3A
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1623          .         .          .<-------   BPC4T
1618          .         .       DPC4
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1624          .      CPC4A............
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1630          .      RPC4A
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1644          .         .-------> BPC4AT
1639          .     DPC4AT
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1653          .         .          .      GCRB18
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1669          .           .         SUB5S
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1675          .           .           .       GC1216
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1681          .           .           .           .       GC1415
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1687          .           .           .           .           .       SUB6S
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1693          .           .           .           .           .           .       SUB7S
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1699          .           .           .       CPRET2.......................................
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1702          .           .           .       SRRET2
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1708          .           .     CLEAR............
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1713          .           .           .       SUB8S
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1719          .           .           .       RGC36
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1725          .           .           .           .       GC36
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1731          .           .           .       C1GC36...........
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1734          .           .           .           .       SUB9S
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1740          .           .           .           .         R9S
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1746          .           .           .       CPGC36...........
              .           .           .           V
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1749          .           .           .       SRGC36
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1755          .           .           .           .       SUB7A
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              .           .           .           .           V
1761          .           .           .           .       SR7A
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              .           .           .           .           V
1767          .           .           .           .       R10S
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1773          .           .           .           .           .       SUB10S
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1779          .           .           .           .       CP10S............
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1782          .           .           .           .           .       SUB11S
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              .           .           .           .           .           V
1788          .           .           .           .           .         R11S
              .           .           .           .           .           .
              .           .           .           .           .           .
1797          .           .           .           .       C10SA............
              .           .           .           .           V
              .           .           .           .           V
1802          .           .           .           .       R10SA
              .           .           .           .           .
              .           .           .           .           .
1811          .           .           .           .           .         GC45
              .           .           .           .           .           .
              .           .           .           .           .           .
1817          .           .           .           .       CGC45............
              .           .           .           .           .
              .           .           .           .           .
1822          .           .           .           .           .         PC5
              .           .           .           .           .           .
              .           .           .           .           .           .
1836          .           .           .           .           .           .           .<-------  BPC4AT
1831          .           .           .           .           .           .       DPC4A
              .           .           .           .           .           .           .
              .           .           .           .           .           .           .
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1837          .          .        CPC5.............................................
              .          .          V
              .          .          V
1845          .          .         RC5
              .          .          .
              .          .          .
1851          .          .          .       SCN5D
              .          .          .          .
              .          .          .          .
1857          .          .        CN5D............
              .          .          .
              .          .          .
1862          .          .          .          .<-------    B52T
1860          .          .          .        D52
              .          .          .          .
              .          .          .          .
1863          .          .          .          .        S53A
              .          .          .          .          .
              .          .          .          .          .
1870          .          .          .        C53............
              .          .          .          .
              .          .          .          .
1873          .          .          .          .       S53A1
              .          .          .          .          .
              .          .          .          .          .
1881          .          .          .       C53A............
              .          .          .          .
              .          .          .          .
1884          .          .          .          .       SCN6B
              .          .          .          .          .
              .          .          .          .          .
1894          .          .          .          .          .       SCN6D
              .          .          .          .          .          .
              .          .          .          .          .          .
1901          .          .          .       CP6D........................
              .          .          .          .
              .          .          .          .
1904          .          .          .          .       SCN6C
              .          .          .          .          .
              .          .          .          .          .
1913          .          .          .       CP6C............
              .          .          .          .
              .          .          .          .
1916          .          .        CP5D............
              .          .          .
              .          .          .
1919          .          .          .       SCN5C
              .          .          .          .
              .          .          .          .
1925          .          .          .          .       SCN6E
              .          .          .          .          .
              .          .          .          .          .
1931          .          .      EAST-I........................
              .          .          V
              .          .          V
1934          .          .      EAST-O
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  02/25/99  TIME  08:05:35   *
*****************************************
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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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PIMA ROAD THREE BASINS — File: EX50-24.IH1
by Stantec for the City of Scottsdale — Original: 08-07-97 mcg
Project: 28900082 — Revised: 01-20-99 mcg

50-YEAR, 24-HOUR STORM
INTERIM CONDITION:
NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF
FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.

THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
DEI FILE NAME: GH23FAB.H1I
MODEL DATE: 21 MAY 96

THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
WOOD/PATEL FILE NAME: DC0721C.DAT
MODEL DATE: 4 JANUARY 96

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

   IT          HYDROGRAPH TIME DATA
                      NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1    0  STARTING DATE
                     ITIME        0000  STARTING TIME
                        NQ        1000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      4    0  ENDING DATE
                    NDTIME        1115  ENDING TIME
                     ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL    0.08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


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       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
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*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

WARNING --- ROUTED OUTFLOW (    925.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    925.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    861.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

WARNING --- ROUTED OUTFLOW (    210.) IS GREATER THAN MAXIMUM OUTFLOW (    205.) IN STORAGE-OUTFLOW TABLE

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
```

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	S51.1	1030.	12.50	168.	50.	17.	1.13		
+	ROUTED TO	DVDB-O	245.	13.25	168.	50.	17.	1.13		
+									1875.89	13.25
+	DIVERSION TO	B51.1T	245.	0.08	168.	50.	17.	1.13		
+	HYDROGRAPH AT	D51.1T	0.	0.08	0.	0.	0.	1.13		
+	HYDROGRAPH AT	52D4	107.	12.25	11.	3.	1.	0.07		
+	ROUTED TO	52D4R	99.	12.25	11.	3.	1.	0.07		

+	HYDROGRAPH AT	52D4B	55.	12.17	5.	2.	1.	0.02
+	2 COMBINED AT	52D5C1	147.	12.25	17.	5.	2.	0.09
+	HYDROGRAPH AT	52D5A	64.	12.17	6.	2.	1.	0.02
+	ROUTED TO	52D5AR	61.	12.17	6.	2.	1.	0.02
+	2 COMBINED AT	52D5C2	196.	12.25	22.	7.	2.	0.12
+	ROUTED TO	52D5R	194.	12.25	22.	7.	2.	0.12
+	HYDROGRAPH AT	52C3	19.	12.08	2.	0.	0.	0.01
+	ROUTED TO	52C3R	18.	12.17	2.	0.	0.	0.01
+	HYDROGRAPH AT	52C3B	43.	12.17	4.	1.	0.	0.02
+	2 COMBINED AT	2C3BC1	61.	12.17	5.	2.	1.	0.02
+	2 COMBINED AT	2C3BC2	235.	12.17	28.	9.	3.	0.14
+	ROUTED TO	52C3BR	234.	12.25	28.	9.	3.	0.14
+	HYDROGRAPH AT	51C	110.	12.25	11.	3.	1.	0.10
+	DIVERSION TO	51C1DV	73.	12.25	8.	2.	1.	0.10
+	HYDROGRAPH AT	51C1D	36.	12.25	4.	1.	0.	0.10
+	ROUTED TO	51C1R	33.	12.33	4.	1.	0.	0.10
+	HYDROGRAPH AT	52C1	60.	12.17	5.	2.	1.	0.03
+	2 COMBINED AT	52C1C	76.	12.17	9.	3.	1.	0.13
+	ROUTED TO	52C1R	74.	12.25	9.	3.	1.	0.13
+	HYDROGRAPH AT	52C2A	32.	12.17	3.	1.	0.	0.02
+	2 COMBINED AT	52C2AC	96.	12.25	11.	3.	1.	0.15
+	HYDROGRAPH AT	52C2B	49.	12.17	4.	1.	0.	0.03
+	2 COMBINED AT	52C2BC	142.	12.17	16.	5.	2.	0.17
+	ROUTED TO	52C2BR	138.	12.25	16.	5.	2.	0.17
+	HYDROGRAPH AT	52C2C	39.	12.17	3.	1.	0.	0.01
+	2 COMBINED AT	52C2CC	161.	12.25	19.	6.	2.	0.19
+	ROUTED TO	52C2R	153.	12.25	19.	6.	2.	0.19
+	HYDROGRAPH AT	52C4	47.	12.17	4.	1.	0.	0.02
+	2 COMBINED AT	52C4C1	182.	12.25	23.	7.	2.	0.20
+	2 COMBINED AT	52C4C2	416.	12.25	50.	16.	5.	0.34
+	ROUTED TO	52C4R	407.	12.25	51.	16.	5.	0.34
+	HYDROGRAPH AT	52C13	57.	12.08	4.	1.	0.	0.02

+	DIVERSION TO	STORM	40.	12.08	4.	1.	0.	0.02
+	HYDROGRAPH AT	2C13DV	17.	12.08	0.	0.	0.	0.02
+	HYDROGRAPH AT	52C15	129.	12.17	11.	4.	1.	0.05
+	2 COMBINED AT	2C15C1	143.	12.08	12.	4.	1.	0.07
+	2 COMBINED AT	2C15C2	484.	12.25	62.	19.	6.	0.41
+	ROUTED TO	52C15R	482.	12.25	62.	19.	6.	0.41
+	HYDROGRAPH AT	52C14A	119.	12.17	10.	3.	1.	0.04
+	2 COMBINED AT	2C14AC	564.	12.17	73.	23.	8.	0.45
+	ROUTED TO	2C14AR	554.	12.25	73.	23.	8.	0.45
+	HYDROGRAPH AT	51C1DV	73.	12.25	8.	2.	1.	0.00
+	DIVERSION TO	51C2DV	20.	12.25	2.	1.	0.	0.00
+	HYDROGRAPH AT	51C2D	54.	12.25	6.	2.	1.	0.00
+	ROUTED TO	51C2R	50.	12.25	6.	2.	1.	0.00
+	HYDROGRAPH AT	52C5	35.	12.17	3.	1.	0.	0.02
+	2 COMBINED AT	52C5C	71.	12.25	8.	3.	1.	0.02
+	ROUTED TO	52C5R	70.	12.33	8.	3.	1.	0.02
+	HYDROGRAPH AT	52C6	70.	12.17	7.	2.	1.	0.04
+	2 COMBINED AT	52C6C	121.	12.25	15.	5.	2.	0.05
+	ROUTED TO	52C6R	117.	12.25	15.	5.	2.	0.05
+	HYDROGRAPH AT	51C2DV	20.	12.25	2.	1.	0.	0.00
+	ROUTED TO	51C3R	18.	12.25	2.	1.	0.	0.00
+	HYDROGRAPH AT	51B	448.	12.42	66.	20.	7.	0.57
+	DIVERSION TO	51B1DV	412.	12.42	61.	18.	6.	0.57
+	HYDROGRAPH AT	51B1D	36.	12.42	5.	2.	1.	0.57
+	ROUTED TO	51B1R	35.	12.42	5.	2.	1.	0.57
+	HYDROGRAPH AT	52C7	15.	12.08	1.	0.	0.	0.01
+	3 COMBINED AT	52C7C	53.	12.33	8.	3.	1.	0.58
+	ROUTED TO	52C7R	52.	12.42	8.	3.	1.	0.58
+	HYDROGRAPH AT	51B1DV	412.	12.42	61.	18.	6.	0.00
+	DIVERSION TO	51B2DV	346.	12.42	51.	15.	5.	0.00
+	HYDROGRAPH AT	51B2D	66.	12.42	10.	3.	1.	0.00
	ROUTED TO							

+	51B2R	64.	12.42	10.	3.	1.	0.00
+ HYDROGRAPH AT	52C8	18.	12.08	1.	0.	0.	0.01
+ 2 COMBINED AT	52C8C	69.	12.42	11.	3.	1.	0.01
+ ROUTED TO	52C8R	67.	12.42	11.	3.	1.	0.01
+ 2 COMBINED AT	52C9C1	119.	12.42	20.	6.	2.	0.59
+ ROUTED TO	52C9R1	116.	12.50	20.	6.	2.	0.59
+ HYDROGRAPH AT	52C9	151.	12.17	13.	4.	1.	0.07
+ 2 COMBINED AT	52C9C2	198.	12.17	33.	10.	3.	0.65
+ ROUTED TO	52C9R2	195.	12.25	33.	10.	3.	0.65
+ 2 COMBINED AT	2C10C1	312.	12.25	48.	15.	5.	0.71
+ ROUTED TO	2C10R1	309.	12.25	48.	15.	5.	0.71
+ HYDROGRAPH AT	52C10	25.	12.17	2.	1.	0.	0.01
+ 2 COMBINED AT	2C10C2	324.	12.25	50.	15.	5.	0.72
+ HYDROGRAPH AT	52C11	86.	12.17	8.	2.	1.	0.04
+ ROUTED TO	2C11R1	79.	12.17	8.	2.	1.	0.04
+ HYDROGRAPH AT	52C13D	40.	12.08	4.	1.	0.	0.00
+ 2 COMBINED AT	52C11C	119.	12.17	12.	4.	1.	0.04
+ ROUTED TO	2C11CR	112.	12.17	12.	4.	1.	0.04
+ 2 COMBINED AT	2C11C2	427.	12.25	62.	19.	6.	0.76
+ ROUTED TO	2C11R2	422.	12.25	62.	19.	6.	0.76
+ HYDROGRAPH AT	52C12	91.	12.08	7.	2.	1.	0.02
+ 2 COMBINED AT	52C12C	456.	12.25	68.	21.	7.	0.79
+ ROUTED TO	52C12R	449.	12.25	68.	21.	7.	0.79
+ HYDROGRAPH AT	52C14B	60.	12.08	5.	2.	1.	0.02
+ 2 COMBINED AT	C14BC1	480.	12.25	73.	22.	8.	0.81
+ 2 COMBINED AT	C14BC2	1034.	12.25	146.	45.	15.	1.26
+ ROUTED TO	52C14R	1030.	12.25	146.	45.	15.	1.26
+ HYDROGRAPH AT	51B2DV	346.	12.42	51.	15.	5.	0.00
+ DIVERSION TO	51B3DV	291.	12.42	43.	13.	4.	0.00
+ HYDROGRAPH AT	51B3D	55.	12.42	8.	2.	1.	0.00
+ ROUTED TO	51B3R	54.	12.42	8.	2.	1.	0.00
+ HYDROGRAPH AT	52B1	7.	12.08	1.	0.	0.	0.00

+	2 COMBINED AT	52B1C	56.	12.42	9.	3.	1.	0.00
+	ROUTED TO	52B1R	54.	12.42	9.	3.	1.	0.00
+	HYDROGRAPH AT	51B3DV	291.	12.42	43.	13.	4.	0.00
+	DIVERSION TO	51B4DV	239.	12.42	35.	10.	3.	0.00
+	HYDROGRAPH AT	51B4D	52.	12.42	8.	2.	1.	0.00
+	ROUTED TO	51B4R1	50.	12.42	8.	2.	1.	0.00
+	2 COMBINED AT	52B2C1	104.	12.42	16.	5.	2.	0.00
+	ROUTED TO	52B2R1	103.	12.50	16.	5.	2.	0.00
+	HYDROGRAPH AT	52B2	62.	12.17	5.	2.	1.	0.03
+	2 COMBINED AT	52B2C2	122.	12.42	22.	6.	2.	0.04
+	ROUTED TO	52B2R2	121.	12.50	22.	6.	2.	0.04
+	ROUTED TO	52B3R1	121.	12.50	22.	6.	2.	0.04
+	HYDROGRAPH AT	52B3	121.	12.17	12.	4.	1.	0.06
+	2 COMBINED AT	52B3C2	199.	12.25	33.	10.	3.	0.10
+	ROUTED TO	52B3R2	192.	12.33	33.	10.	3.	0.10
+	HYDROGRAPH AT	52B4	73.	12.17	6.	2.	1.	0.03
+	2 COMBINED AT	52B4C	235.	12.25	39.	12.	4.	0.12
+	ROUTED TO	52B4R	229.	12.25	39.	12.	4.	0.12
+	HYDROGRAPH AT	52B5	56.	12.08	5.	2.	1.	0.02
+	2 COMBINED AT	52B5C1	262.	12.25	44.	14.	5.	0.14
+	2 COMBINED AT	52B5C2	1292.	12.25	190.	59.	20.	1.40
+	ROUTED TO	52B5R	1273.	12.25	191.	59.	20.	1.40
+	HYDROGRAPH AT	51B4DV	239.	12.42	35.	10.	3.	0.00
+	DIVERSION TO	51B5DV	162.	12.42	24.	7.	2.	0.00
+	HYDROGRAPH AT	51B5D	76.	12.42	11.	3.	1.	0.00
+	ROUTED TO	51B5R	73.	12.42	11.	3.	1.	0.00
+	HYDROGRAPH AT	51B5DV	162.	12.42	24.	7.	2.	0.00
+	DIVERSION TO	51B6DV	86.	12.42	13.	4.	1.	0.00
+	HYDROGRAPH AT	51B6D	76.	12.42	11.	3.	1.	0.00
+	ROUTED TO	51B6R	74.	12.42	11.	3.	1.	0.00
+	HYDROGRAPH AT	51B6DV	86.	12.42	13.	4.	1.	0.00
+	DIVERSION TO	51B7DV	50.	12.42	7.	2.	1.	0.00

	HYDROGRAPH AT								
+		51B7D	36.	12.42	5.	2.	1.	0.00	
	ROUTED TO								
+		51B7R1	35.	12.42	5.	2.	1.	0.00	
	3 COMBINED AT								
+		51B7C	182.	12.42	28.	8.	3.	0.00	
	ROUTED TO								
+		51B7R2	180.	12.50	28.	8.	3.	0.00	
	HYDROGRAPH AT								
+		52B6	170.	12.17	15.	5.	2.	0.10	
	2 COMBINED AT								
+		52B6C	233.	12.42	43.	13.	4.	0.10	
	ROUTED TO								
+		52B6R	232.	12.50	43.	13.	4.	0.10	
	HYDROGRAPH AT								
+		52B7	250.	12.17	22.	7.	2.	0.08	
	2 COMBINED AT								
+		52B7C1	349.	12.17	64.	20.	7.	0.18	
	2 COMBINED AT								
+		52B7C2	1611.	12.25	254.	78.	26.	1.58	
	HYDROGRAPH AT								
+		52A2	211.	12.17	19.	6.	2.	0.06	
	2 COMBINED AT								
+		52A2C2	1752.	12.25	273.	84.	28.	1.64	
	HYDROGRAPH AT								
+		51B7DV	50.	12.42	7.	2.	1.	0.00	
	ROUTED TO								
+		51B8R	48.	12.50	7.	2.	1.	0.00	
	HYDROGRAPH AT								
+		52A1	287.	12.17	25.	8.	3.	0.13	
	2 COMBINED AT								
+		52A1C	289.	12.17	32.	10.	3.	0.13	
	HYDROGRAPH AT								
+		D51.1	245.	13.25	168.	50.	17.	0.00	
	2 COMBINED AT								
+		C52A	359.	12.17	198.	60.	20.	0.13	
	2 COMBINED AT								
+		C52	2099.	12.25	470.	144.	48.	1.77	
	ROUTED TO								
+		R52	2099.	12.33	470.	144.	48.	1.77	
	DIVERSION TO								
+		B52T	2099.	0.08	470.	144.	48.	1.77	
	HYDROGRAPH AT								
+		D52T	0.	0.08	0.	0.	0.	1.77	
	2 COMBINED AT								
+		CLEAR	0.	0.08	0.	0.	0.	2.90	
	HYDROGRAPH AT								
+		1B	400.	12.42	55.	16.	5.	0.36	
	ROUTED TO								
+		37AE1	400.	12.42	55.	16.	5.	0.36	
+									2.68 12.42
	HYDROGRAPH AT								
+		SUB5N	61.	12.17	5.	2.	1.	0.03	
	2 COMBINED AT								
+		CP5N	422.	12.42	60.	18.	6.	0.39	
	ROUTED TO								
+		RET5N	396.	12.50	56.	18.	6.	0.39	
+									1807.43 12.50
	ROUTED TO								
+		R6N.1	353.	12.58	56.	18.	6.	0.39	
+									2.56 12.58
	HYDROGRAPH AT								
+		SUB6B	65.	12.17	6.	2.	1.	0.03	
	ROUTED TO								

+		SR6B	48.	12.25	6.	2.	1.	0.03	
+									1774.35 12.25
	2 COMBINED AT								
+		CP6.1	370.	12.58	62.	20.	7.	0.42	
	HYDROGRAPH AT								
+		SUB1N	40.	12.17	3.	1.	0.	0.02	
	ROUTED TO								
+		R2NA	40.	12.17	3.	1.	0.	0.02	
+									0.94 12.17
	HYDROGRAPH AT								
+		SUB2NA	30.	12.17	3.	1.	0.	0.01	
	2 COMBINED AT								
+		CP2NA	70.	12.17	6.	2.	1.	0.03	
	ROUTED TO								
+		SR2NA	64.	12.25	5.	1.	0.	0.03	
+									1775.40 12.25
	ROUTED TO								
+		R2NB	53.	12.33	5.	1.	0.	0.03	
+									1.26 12.33
	HYDROGRAPH AT								
+		SUB2NB	79.	12.17	7.	2.	1.	0.03	
	2 COMBINED AT								
+		CP2NB	98.	12.25	12.	4.	1.	0.06	
	ROUTED TO								
+		SR2NB	18.	12.83	11.	4.	1.	0.06	
+									1804.01 12.83
	ROUTED TO								
+		RCP4N	18.	12.83	11.	4.	1.	0.06	
+									0.65 12.83
	HYDROGRAPH AT								
+		SUB6N	99.	12.17	9.	2.	1.	0.05	
	ROUTED TO								
+		RET6N	0.	0.08	0.	0.	0.	0.05	
+									1785.06 60.25
	ROUTED TO								
+		RCP4N1	0.	0.08	0.	0.	0.	0.05	
	2 COMBINED AT								
+		CP4N.1	18.	12.83	11.	4.	1.	0.11	
	HYDROGRAPH AT								
+		SUB3N	59.	12.17	5.	1.	0.	0.03	
	ROUTED TO								
+		RET3N	4.	13.08	3.	1.	0.	0.03	
+									1794.85 13.08
	ROUTED TO								
+		R4N	4.	13.17	3.	1.	0.	0.03	
+									0.28 13.17
	2 COMBINED AT								
+		CP4N.2	21.	12.83	14.	5.	2.	0.14	
	HYDROGRAPH AT								
+		SUB4N	68.	12.17	6.	2.	1.	0.03	
	2 COMBINED AT								
+		CP4N	76.	12.17	20.	7.	2.	0.17	
	ROUTED TO								
+		R6N	73.	12.17	20.	7.	2.	0.17	
+									1.41 12.17
	HYDROGRAPH AT								
+		SUB6A	50.	12.08	4.	1.	0.	0.01	
	2 COMBINED AT								
+		CP6.2	107.	12.17	23.	8.	3.	0.18	
	2 COMBINED AT								
+		CP6N	410.	12.58	84.	27.	9.	0.60	
	ROUTED TO								
+		RCP6N	406.	12.58	84.	27.	9.	0.60	
+									2.09 12.58
	HYDROGRAPH AT								
+		SUB3C	43.	12.08	3.	1.	0.	0.01	
	2 COMBINED AT								

+		CP3C	409.	12.58	87.	28.	9.	0.61	
	ROUTED TO								
+		R3C	395.	12.67	87.	28.	9.	0.61	
+									1672.36 12.67
	HYDROGRAPH AT								
+		GC1018	90.	12.17	8.	2.	1.	0.04	
	HYDROGRAPH AT								
+		GC1-9	52.	12.17	5.	1.	0.	0.03	
	HYDROGRAPH AT								
+		SUB3S	27.	12.17	2.	1.	0.	0.01	
	4 COMBINED AT								
+		CP3S	425.	12.67	101.	32.	11.	0.69	
	ROUTED TO								
+		RT3S	424.	12.67	101.	32.	11.	0.69	
+									1744.06 12.67
	HYDROGRAPH AT								
+		SUB4S	73.	12.17	6.	2.	1.	0.03	
	ROUTED TO								
+		RT4S	71.	12.17	6.	2.	1.	0.03	
+									1743.32 12.17
	HYDROGRAPH AT								
+		GC2-8	28.	12.17	3.	1.	0.	0.01	
	3 COMBINED AT								
+		1PGC28	441.	12.67	110.	35.	12.	0.74	
	HYDROGRAPH AT								
+		SUB3D3	30.	12.17	3.	1.	0.	0.01	
	2 COMBINED AT								
+		CPGC28	445.	12.67	113.	36.	12.	0.75	
	ROUTED TO								
+		SRGC28	433.	12.67	112.	36.	12.	0.75	
+									1712.33 12.67
	ROUTED TO								
+		RT7S	431.	12.75	112.	36.	12.	0.75	
+									1744.18 12.75
	HYDROGRAPH AT								
+		GC7	27.	12.17	2.	1.	0.	0.01	
	2 COMBINED AT								
+		CP7S	435.	12.75	114.	36.	12.	0.76	
	DIVERSION TO								
+		B7ST	435.	0.08	114.	36.	12.	0.76	
	HYDROGRAPH AT								
+		D7ST	0.	0.08	0.	0.	0.	0.76	
	2 COMBINED AT								
+		CLEAR	0.	0.08	0.	0.	0.	3.67	
	HYDROGRAPH AT								
+		SUB3D1	23.	12.08	2.	1.	0.	0.01	
	ROUTED TO								
+		RD1B1	19.	12.17	2.	1.	0.	0.01	
+									1.68 12.17
	HYDROGRAPH AT								
+		SUB3B1	39.	12.08	3.	1.	0.	0.01	
	2 COMBINED AT								
+		CP3B1	53.	12.08	5.	2.	1.	0.02	
	ROUTED TO								
+		RB13F	42.	12.25	5.	2.	1.	0.02	
+									1.75 12.25
	HYDROGRAPH AT								
+		SUB3F	110.	12.08	9.	3.	1.	0.03	
	2 COMBINED AT								
+		CP3F	137.	12.08	14.	4.	1.	0.06	
	HYDROGRAPH AT								
+		SUB3B2	57.	12.17	5.	2.	1.	0.02	
	ROUTED TO								
+		RB2E1	55.	12.17	5.	2.	1.	0.02	
+									1.82 12.17
	ROUTED TO								

+		RB2E2	52.	12.25	5.	2.	1.	0.02	
+									1.86 12.25
+	HYDROGRAPH AT	SUB3E1	57.	12.17	5.	2.	1.	0.02	
+	2 COMBINED AT	1CPE31	107.	12.17	11.	3.	1.	0.05	
+	HYDROGRAPH AT	SUB3D2	50.	12.17	5.	1.	0.	0.02	
+	ROUTED TO	RD2E2	48.	12.17	5.	1.	0.	0.02	
+									1.74 12.17
+	HYDROGRAPH AT	SUB3E2	31.	12.08	2.	1.	0.	0.01	
+	2 COMBINED AT	CP3E2	73.	12.17	7.	2.	1.	0.03	
+	HYDROGRAPH AT	PC3	55.	12.25	7.	2.	1.	0.04	
+	4 COMBINED AT	CPC3	353.	12.17	38.	12.	4.	0.18	
+	DIVERSION TO	BPC3T	353.	0.08	38.	12.	4.	0.18	
+	HYDROGRAPH AT	DPC3T	0.	0.08	0.	0.	0.	0.18	
+	HYDROGRAPH AT	SUB3E3	51.	12.08	4.	1.	0.	0.02	
+	HYDROGRAPH AT	PC4	25.	12.25	3.	1.	0.	0.02	
+	HYDROGRAPH AT	D7S	435.	12.75	114.	36.	12.	0.00	
+	3 COMBINED AT	CPC4	446.	12.75	121.	39.	13.	0.04	
+	DIVERSION TO	BPC4T	446.	0.08	121.	39.	13.	0.04	
+	HYDROGRAPH AT	DPC4T	0.	0.08	0.	0.	0.	0.04	
+	3 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	3.89	
+	HYDROGRAPH AT	1A1	446.	12.58	76.	23.	8.	0.75	
+	ROUTED TO	R1A1	387.	12.83	75.	23.	8.	0.75	
+									1.03 12.83
+	HYDROGRAPH AT	1A2	1073.	12.25	108.	33.	11.	0.61	
+	2 COMBINED AT	C1A	1074.	12.25	180.	55.	19.	1.36	
+	ROUTED TO	R14R	852.	12.33	180.	55.	19.	1.36	
+									3.70 12.33
+	ROUTED TO	RET141	835.	12.33	173.	55.	19.	1.36	
+									1794.74 12.33
+	ROUTED TO	R14.1	725.	12.50	173.	55.	19.	1.36	
+									3.44 12.50
+	HYDROGRAPH AT	SUB13N	73.	12.17	7.	2.	1.	0.04	
+	ROUTED TO	R14.1	70.	12.25	7.	2.	1.	0.04	
+									1.57 12.25
+	HYDROGRAPH AT	SUB14N	80.	12.25	9.	2.	1.	0.05	
+	3 COMBINED AT	CP14	789.	12.50	187.	60.	20.	1.44	
+	ROUTED TO	RET14	728.	12.58	182.	60.	20.	1.44	

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+                                                                                                  1755.92      12.58

          ROUTED TO
+                        R18.1     721.  12.58      182.     60.     20.    1.44
+                                                                                                     2.77      12.58

          HYDROGRAPH AT
+                       SUB20N      42.  12.17        5.      1.      0.    0.02

          ROUTED TO
+                          R19      42.  12.25        5.      1.      0.    0.02
+                                                                                                     1.11      12.25

          HYDROGRAPH AT
+                       SUB19N      80.  12.17        8.      2.      1.    0.04

          2 COMBINED AT
+                        CP19N     116.  12.17       12.      4.      1.    0.06

          ROUTED TO
+                        R18NC     115.  12.25       12.      4.      1.    0.06
+                                                                                                     1.58      12.25

          HYDROGRAPH AT
+                       UB18NC      53.  12.17        5.      1.      0.    0.02

          3 COMBINED AT
+                       CP18NC     769.  12.58      197.     65.     22.    1.53

          ROUTED TO
+                          RPC1    779.  12.58      197.     65.     22.    1.53
+                                                                                                     2.36      12.58

          HYDROGRAPH AT
+                       UB18NA      55.  12.17        5.      1.      0.    0.02

          ROUTED TO
+                         1RPC1     28.  12.33        5.      1.      0.    0.02
+                                                                                                     0.37      12.33

          HYDROGRAPH AT
+                       UB18NB      23.  12.17        2.      1.      0.    0.01

          ROUTED TO
+                         2RPC1     14.  12.25        2.      1.      0.    0.01
+                                                                                                     0.19      12.25

          HYDROGRAPH AT
+                          PC1      63.  12.42       10.      3.      1.    0.06

          3 COMBINED AT
+                         1CPC1    101.  12.42       17.      5.      2.    0.09

          ROUTED TO
+                         SRPC1    101.  12.42       17.      5.      2.    0.09
+                                                                                                  1748.29      12.42

          2 COMBINED AT
+                          CPC1    859.  12.58      213.     70.     23.    1.62

          ROUTED TO
+                        R16NA1    877.  12.58      213.     70.     23.    1.62
+                                                                                                     2.25      12.58

          HYDROGRAPH AT
+                       UB16NA      35.  12.17        3.      1.      0.    0.01

          ROUTED TO
+                        R16NA1     31.  12.17        3.      1.      0.    0.01
+                                                                                                     0.69      12.17

          2 COMBINED AT
+                        C16NA1    885.  12.58      216.     71.     24.    1.63

          ROUTED TO
+                        R16NB1    886.  12.58      216.     71.     24.    1.63
+                                                                                                     2.26      12.58

          HYDROGRAPH AT
+                       UB16NB      40.  12.17        3.      1.      0.    0.02

          ROUTED TO
+                        R16NB1     36.  12.17        3.      1.      0.    0.02
+                                                                                                     0.74      12.17

          2 COMBINED AT
+                        C16NB1    895.  12.58      219.     72.     24.    1.65

          ROUTED TO
+                        R16NC1    871.  12.58      219.     72.     24.    1.65
+                                                                                                     2.80      12.58

          HYDROGRAPH AT
+                         SUB7N     64.  12.17        6.      2.      1.    0.03
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+	ROUTED TO	R8NC	56.	12.17	6.	2.	1.	0.03	
+									1.39 12.17
+	HYDROGRAPH AT	SUB8NA	12.	12.08	1.	0.	0.	0.00	
+	ROUTED TO	SR8NA	1.	13.00	0.	0.	0.	0.00	
+									1793.23 13.08
+	ROUTED TO	R8NB	1.	13.00	0.	0.	0.	0.00	
+									0.01 13.08
+	HYDROGRAPH AT	SUB8NB	31.	12.08	3.	1.	0.	0.01	
+	2 COMBINED AT	CP8NB	31.	12.08	3.	1.	0.	0.02	
+	ROUTED TO	SR8NB	2.	11.92	2.	1.	0.	0.02	
+									1787.30 13.33
+	ROUTED TO	R8NC	2.	12.00	2.	1.	0.	0.02	
+									0.02 12.00
+	HYDROGRAPH AT	SUB8NC	44.	12.08	3.	1.	0.	0.02	
+	3 COMBINED AT	CP8NC	93.	12.17	11.	3.	1.	0.07	
+	ROUTED TO	SR8NC	15.	12.75	11.	3.	1.	0.07	
+									1780.00 12.75
+	ROUTED TO	R9N	14.	12.83	11.	3.	1.	0.07	
+									0.47 12.83
+	HYDROGRAPH AT	SUB9N	122.	12.17	11.	3.	1.	0.05	
+	2 COMBINED AT	CP9N	132.	12.17	21.	7.	2.	0.12	
+	ROUTED TO	R10B	130.	12.17	21.	7.	2.	0.12	
+									1.61 12.17
+	HYDROGRAPH AT	SUB10B	72.	12.08	6.	2.	1.	0.03	
+	2 COMBINED AT	CP10B	197.	12.17	27.	9.	3.	0.15	
+	ROUTED TO	R11NA	199.	12.17	27.	9.	3.	0.15	
+									1.66 12.17
+	HYDROGRAPH AT	UB11NA	19.	12.08	1.	0.	0.	0.01	
+	2 COMBINED AT	CP11NA	213.	12.17	28.	9.	3.	0.16	
+	ROUTED TO	SR11NA	133.	12.33	28.	9.	3.	0.16	
+									1743.51 12.33
+	ROUTED TO	R11NB	123.	12.33	28.	9.	3.	0.16	
+									0.69 12.33
+	HYDROGRAPH AT	UB11NB	19.	12.08	1.	0.	0.	0.01	
+	2 COMBINED AT	CP11NB	129.	12.33	29.	9.	3.	0.17	
+	ROUTED TO	SR11NB	76.	12.50	29.	9.	3.	0.17	
+									1737.59 12.50
+	ROUTED TO	R11NC	78.	12.50	29.	9.	3.	0.17	
+									0.52 12.50
+	HYDROGRAPH AT	UB11NC	17.	12.08	1.	0.	0.	0.01	
	2 COMBINED AT								

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+                    C11NC1      81.  12.50       30.       10.       3.     0.17
        HYDROGRAPH AT
+                    SUB10A      74.  12.17        7.        2.       1.     0.03
        ROUTED TO
+                    R12NB       79.  12.17        7.        2.       1.     0.03
+                                                                                   0.75      12.17
        HYDROGRAPH AT
+                    UB12NA      32.  12.17        3.        1.       0.     0.02
        ROUTED TO
+                    SR12NA       1.  16.42        1.        0.       0.     0.02
+                                                                                1743.12      16.75
        ROUTED TO
+                    R12NA        1.  16.42        1.        0.       0.     0.02
+                                                                                   0.01      16.83
        HYDROGRAPH AT
+                    UB12NB      32.  12.17        3.        1.       0.     0.02
        3 COMBINED AT
+                    CP12NB     112.  12.17       10.        3.       1.     0.06
        ROUTED TO
+                    SR12NB       2.  12.08        2.        2.       1.     0.06
+                                                                                1745.97      17.33
        ROUTED TO
+                    R11NC2       2.  12.42        2.        2.       1.     0.06
+                                                                                   0.07      12.92
        2 COMBINED AT
+                    CP11NC      83.  12.50       32.       11.       4.     0.23
        ROUTED TO
+                    SR11NC      66.  12.75       30.       11.       4.     0.23
+                                                                                1735.47      12.75
        ROUTED TO
+                    R16NC       65.  12.75       30.       11.       4.     0.23
+                                                                                   1.33      12.75
        HYDROGRAPH AT
+                    UB16NC      85.  12.17        7.        2.       1.     0.03
        2 COMBINED AT
+                    CP16NC      92.  12.17       36.       13.       5.     0.27
        ROUTED TO
+                    R16NC1      91.  12.17       36.       13.       5.     0.27
+                                                                                   1.12      12.17
        2 COMBINED AT
+                    C16NC1     924.  12.67      255.       85.      29.     1.92
        ROUTED TO
+                    R15N1      940.  12.67      255.       85.      29.     1.92
+                                                                                   2.89      12.67
        HYDROGRAPH AT
+                    PC2         84.  12.25        9.        3.       1.     0.05
        2 COMBINED AT
+                    CP15N1     963.  12.67      264.       88.      30.     1.97
        ROUTED TO
+                    SRPC2      925.  12.67      263.       88.      30.     1.97
+                                                                                1735.25      12.67
        HYDROGRAPH AT
+                    UB17NA      24.  12.08        2.        0.       0.     0.01
        ROUTED TO
+                    SR17NA       2.  12.75        1.        0.       0.     0.01
+                                                                                1759.06      12.75
        ROUTED TO
+                    R17NB        2.  12.75        1.        0.       0.     0.01
+                                                                                1756.02      12.75
        HYDROGRAPH AT
+                    UB17NB      24.  12.17        2.        1.       0.     0.01
        2 COMBINED AT
+                    CP17NB      25.  12.17        3.        1.       0.     0.02
        ROUTED TO
+                    SR17NB       1.  11.83        1.        1.       0.     0.02
+                                                                                1756.29      22.67
        ROUTED TO
+                    R17A         1.  11.92        1.        1.       0.     0.02
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+                                                                                    1752.09      11.92
          HYDROGRAPH AT
+                    SUB17A     24.  12.08      2.     0.     0.    0.01
          2 COMBINED AT
+                    CP17A1     25.  12.08      3.     1.     1.    0.03
          HYDROGRAPH AT
+                    UB17NC     16.  12.08      1.     0.     0.    0.01
          2 COMBINED AT
+                    CP17A      41.  12.08      4.     2.     1.    0.03
          ROUTED TO
+                    R15N       29.  12.17      4.     2.     1.    0.03
+                                                                                       0.85      12.17
          HYDROGRAPH AT
+                    SUB15N    117.  12.17     10.     3.     1.    0.04
          2 COMBINED AT
+                    CP15N     146.  12.17     14.     5.     2.    0.07
          ROUTED TO
+                    R15N2     148.  12.17     14.     5.     2.    0.07
+                                                                                       1.80      12.17
          2 COMBINED AT
+                    CP15N2    949.  12.67    275.    92.    32.    2.04
          ROUTED TO
+                    R15N2     920.  12.75    275.    92.    32.    2.04
+                                                                                       2.55      12.75
          HYDROGRAPH AT
+                    DPC3      353.  12.17     38.    12.     4.    0.00
          2 COMBINED AT
+                    CPC3A     976.  12.75    310.   103.    36.    2.04
          ROUTED TO
+                    RPC3A     970.  12.83    310.   103.    36.    2.04
+                                                                                       2.61      12.83
          HYDROGRAPH AT
+                    DPC4      446.  12.75    121.    39.    13.    0.00
          2 COMBINED AT
+                    CPC4A    1394.  12.83    431.   142.    49.    2.04
          ROUTED TO
+                    RPC4A    1392.  12.83    431.   142.    49.    2.04
+                                                                                       3.07      12.83
          DIVERSION TO
+                    BPC4AT   1392.   0.08    431.   142.    49.    2.04
          HYDROGRAPH AT
+                    DPC4AT      0.   0.08      0.     0.     0.    2.04
          HYDROGRAPH AT
+                    SUB1-2    148.  12.17     14.     5.     2.    0.06
          HYDROGRAPH AT
+                    GCRB18     24.  12.17      2.     1.     0.    0.01
          2 COMBINED AT
+                    CPRET1    171.  12.17     17.     5.     2.    0.07
          ROUTED TO
+                    SR18S       0.   0.08      0.     0.     0.    0.07
+                                                                                    1738.51      77.92
          HYDROGRAPH AT
+                    SUB5S      61.  12.17      5.     2.     1.    0.03
          HYDROGRAPH AT
+                    GC1216     74.  12.17      7.     2.     1.    0.04
          HYDROGRAPH AT
+                    GC1415     91.  12.17      8.     2.     1.    0.05
          HYDROGRAPH AT
+                    SUB6S      45.  12.17      5.     1.     0.    0.02
          HYDROGRAPH AT
+                    SUB7S      66.  12.17      6.     2.     1.    0.03
          5 COMBINED AT
+                    CPRET2    337.  12.17     30.     9.     3.    0.16
          ROUTED TO
+                    SRRET2      0.   0.08      0.     0.     0.    0.16
+                                                                                    1688.88      76.83
```

+	2 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	0.22	
+	HYDROGRAPH AT	SUB8S	63.	12.17	6.	2.	1.	0.03	
+	ROUTED TO	RGC36	55.	12.25	6.	2.	1.	0.03	
+									1.05 12.25
+	HYDROGRAPH AT	GC36	74.	12.17	7.	2.	1.	0.04	
+	2 COMBINED AT	C1GC36	128.	12.17	13.	4.	1.	0.07	
+	HYDROGRAPH AT	SUB9S	56.	12.17	5.	2.	1.	0.02	
+	ROUTED TO	R9S	57.	12.17	5.	2.	1.	0.02	
+									3.36 12.17
+	2 COMBINED AT	CPGC36	185.	12.17	18.	5.	2.	0.09	
+	ROUTED TO	SRGC36	210.	12.17	18.	5.	2.	0.09	
+									1669.03 12.17
+	HYDROGRAPH AT	SUB7A	23.	12.17	2.	1.	0.	0.01	
+	ROUTED TO	SR7A	7.	12.42	2.	1.	0.	0.01	
+									1702.00 12.42
+	ROUTED TO	R10S	6.	12.58	2.	1.	0.	0.01	
+									2.56 12.58
+	HYDROGRAPH AT	SUB10S	66.	12.17	6.	2.	1.	0.02	
+	2 COMBINED AT	CP10S	68.	12.17	8.	2.	1.	0.03	
+	HYDROGRAPH AT	SUB11S	92.	12.08	6.	2.	1.	0.02	
+	ROUTED TO	R11S	72.	12.17	6.	2.	1.	0.02	
+									3.59 12.17
+	2 COMBINED AT	C10SA	140.	12.17	14.	4.	1.	0.06	
+	ROUTED TO	R10SA	141.	12.17	14.	4.	1.	0.06	
+									4.10 12.17
+	HYDROGRAPH AT	GC45	38.	12.08	2.	1.	0.	0.01	
+	2 COMBINED AT	CGC45	162.	12.17	16.	5.	2.	0.07	
+	HYDROGRAPH AT	PC5	42.	12.33	6.	2.	1.	0.04	
+	HYDROGRAPH AT	DPC4A	1392.	12.83	431.	142.	49.	0.00	
+	5 COMBINED AT	CPC5	1449.	12.83	469.	153.	53.	0.42	
+	ROUTED TO	RC5	1421.	12.92	469.	153.	53.	0.42	
+									3.10 12.92
+	HYDROGRAPH AT	SCN5D	63.	12.25	7.	2.	1.	0.05	
+	2 COMBINED AT	CN5D	1430.	12.92	475.	155.	53.	0.47	
+	HYDROGRAPH AT	D52	2099.	12.33	470.	144.	48.	0.00	
+	HYDROGRAPH AT	S53A	235.	12.25	27.	8.	3.	0.18	
+	2 COMBINED AT	C53	2315.	12.33	497.	152.	51.	0.18	

```
          HYDROGRAPH AT
+                         S53A1     435.  12.33      54.      16.       5.     0.34
          2 COMBINED AT
+                          C53A    2750.  12.33     551.     168.      57.     0.52
          HYDROGRAPH AT
+                         SCN6B     127.  12.17      12.       4.       1.     0.05
          HYDROGRAPH AT
+                         SCN6D      61.  12.17       5.       1.       0.     0.04
          3 COMBINED AT
+                          CP6D    2853.  12.33     568.     173.      58.     0.61
          HYDROGRAPH AT
+                         SCN6C     295.  12.17      28.       9.       3.     0.14
          2 COMBINED AT
+                          CP6C    3058.  12.25     595.     182.      61.     0.74
          2 COMBINED AT
+                          CP5D    4208.  12.33    1068.     335.     114.     1.21
          HYDROGRAPH AT
+                         SCN5C     235.  12.25      25.       7.       2.     0.19
          HYDROGRAPH AT
+                         SCN6E      35.  12.50       6.       2.       1.     0.04
          3 COMBINED AT
+                         EAST-I    4430.  12.33    1099.     344.     117.     1.45
          ROUTED TO
+                         EAST-O    1986.  13.17    1097.     344.     117.     1.45
+                                                                          1611.92     13.17
1
```

APPENDIX G

East Side Interim Build-Out and 50% Clogging Condition
100-Year, 24-Hour
Printout (I-5)

```
1****************************************                                    ****************************************
*                                      *                                    *                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                    *   U.S. ARMY CORPS OF ENGINEERS       *
*              MAY  1991               *                                    *   HYDROLOGIC ENGINEERING CENTER      *
*            VERSION 4.0.1E            *                                    *         609 SECOND STREET            *
*     Lahey F77L-EM/32 version 5.01    *                                    *      DAVIS, CALIFORNIA 95616         *
*       Dodson & Associates, Inc.      *                                    *          (916) 551-1748              *
* RUN DATE  02/25/99  TIME  08:04:35   *                                    *                                      *
****************************************                                    ****************************************

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

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

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

1                                                HEC-1 INPUT                                                    PAGE  1

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

    1           ID    PIMA ROAD THREE BASINS                                  File: EX100-24.IH1
    2           ID    by  Stantec for the City of Scottsdale             Original: 08-07-97     mcg
    3           ID        Project:  28900082                              Revised: 01-20-99     mcg
    4           ID
    5           ID
    6           ID    100-YEAR, 24-HOUR STORM
    7           ID        INTERIM CONDITION:
    8           ID           NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
    9           ID           GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
   10           ID           THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
   11           ID           THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF
   12           ID           FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.
   13           ID
   14           ID        THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
   15           ID            DEI FILE NAME:  GH23FAB.H1I
   16           ID            MODEL DATE:     21 MAY 96
   17           ID
   18           ID        THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
   19           ID            WOOD/PATEL FILE NAME:  DC0721C.DAT
   20           ID            MODEL DATE:            4 JANUARY 96
   21           ID
   22           ID
                *DIAGRAM
   23           IT       5                    1000
   24           IO       5
                *

   25           KK   S51.1
   26           KM     RUNOFF FROM SUBBASIN 51.1
   27           KM        RAINFALL LOSSES FOR GREINER SUBBASINS 51.1 AND 49.1 ARE AREA WEIGHTED
   28           BA   1.130
   29           PH            6.9     .84    1.53    2.46    2.75    2.94    3.31    3.74    4.17
   30           LS           73.9      12
   31           UK     300   0.037   0.130     100
   32           RK    1800   0.038   0.045  0.0161    TRAP       0      12
   33           RK   14400   0.032   0.040            TRAP      40      15
                *

   34           KK  DVDB-O
   35           KM     DETENTION BASIN AT DEER VALLEY ROAD
   36           KM     PRINCIPAL SPILLWAY:  54" CONDUIT THAT TIES INTO THE PIMA ROAD STORM DRAIN.
   37           KM        EMERGENCY SPILLWAY:  200' x 1.5' RECT. WEIR - CREST ELEV = 1879.5
   38           KM        STAGE-DISCHARGE RATING CURVE REFLECTS 50% CLOGGING OF THE TRASHRACK.
   39           KM        2 ACRE-FEET OF STORAGE FOR SEDIMENTAION
   40           KM
   41           RS       1    STOR      -1
   42           SV       0    0.54    1.18    2.09    6.30   14.25   24.78   30.93   37.69   45.08
   43           SV   49.03   53.18   55.67   58.17   59.44   59.86   60.28   60.70   61.12   61.54
   44           SQ       0       3      28      81     181     215     231     240     245     250
   45           SQ     253     254     339     563     791     877     968    1065    1165    1270
   46           SE    1855    1856    1858    1860    1864    1868    1872    1874    1876    1878
   47           SE    1879  1879.5  1879.8  1880.2  1880.5  1880.6  1880.7  1880.8  1880.9    1881
                *
                *  R51.1
                *    DEER VALLEY BASIN OUTLET CONDUIT TO THOMPSON PEAK PARKWAY
                *    NO ROUTING THROUGH CONDUIT.
                *       L = 2820 feet
```

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

                *
  48            KK  D51.1T
  49            KM     DIVERT 100% OF FLOW TO RETRIEVE AT THOMPSON PEAK PARKWAY
  50            DT  B51.1T
  51            DI       0   10000
  52            DQ       0   10000
                *
                *
                *     ******************  BEGIN DC RANCH WATERSHED  *******************
                *
                *       THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
                *           WOOD/PATEL FILE NAME:  DC0721C.DAT
                *           MODEL DATE:            4 JANUARY 96
                *

  53            KK    52D4
  54            KM   RUNOFF FROM SUBBASIN 52D4
  55            BA    .070
  56            LS              75    14.5
  57            UK     120    .010     .15     100
  58            RK    3100    .035    .045            TRAP      30      10
                *

  59            KK   52D4R
  60            KM   ROUTE 52D4C THROUGH 52D5 TO CP 52D5C
  61            RK    1350    .033    .045            TRAP      10      10
                *

  62            KK   52D4B
  63            KM   RUNOFF FROM SUBBASIN 52D4B
  64            BA    .022
  65            LS              75      63
  66            UK     120    .010     .15     100
  67            RK    2200    .033    .045            TRAP      30      10
                *

  68            KK  52D5C1
  69            KM   COMBINE 52D4R AND 52D4B
  70            HC       2
                *

  71            KK   52D5A
  72            KM   RUNOFF FROM 52D5A
  73            BA   .0232
  74            LS              75      63
  75            UK     120    .010     .15     100
  76            RK    1300    .032    .045            TRAP      30      10
                *

  77            KK  52D5AR
  78            KM   ROUTE 52D5A THROUGH BEARDSLEY CHANNEL TO CP 52D5C2
  79            RK     400   .0143    .035            TRAP      50       4
                *
```



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

  80            KK  52D5C2
  81            KM   COMBINE 25D5C1 AND 52D5AR
  82            HC       2
                *

  83            KK   52D5R
  84            KM   ROUTE 52D5C IN BEARDSLEY CHANNEL TO CP 52C3BC2
  85            RK     240   .0143    .035            TRAP      50       4
                *

  86            KK    52C3
  87            KM   RUNOFF FROM SUBBASIN 52C3
  88            BA    .006
  89            LS              75      65
  90            UK     100     .02     .10     100
  91            RK     800    .033    .045            TRAP      30      10
                *

  92            KK   52C3R
  93            KM   ROUTE 52C3 THROUGH SUBBASIN 52C4 TO CP 52C4C1
  94            RK    1350    .034    .045            TRAP      10      10
                *

  95            KK   52C3B
  96            KM   RUNOFF FROM SUBBASIN 52C3B
  97            BA    .016
  98            LS              75      60
  99            UK     100     .02     .10     100
 100            RK    1400    .034    .045            TRAP      30      10
                *

 101            KK  2C3BC1
```

```
 102          KM   COMBINE 52C3B AND 52C3R
 103          HC       2
              *

 104          KK  2C3BC2
 105          KM   COMBINE 52C3BC1 AND 52C5R
 106          HC       2
              *

 107          KK  52C3BR
 108          KM   ROUTE 52C3BC2 IN BEARDSLEY CHANNEL TO CP 52C4C2
 109          RK    430   .0143    .035            TRAP      50       4
              *
              *

 110          KK     51C     SUB
 111          KM        RUNOFF FROM SUB 51C
 112          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
 113          KM        CONDITIONS.
 114          BA   .0972
 115          LS              70       5
 116          UK    100   .0213     .10     100
1                                        HEC-1 INPUT                                          PAGE  4

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

 117          RK   3900   .0375    .045            TRAP      30      10
              *

 118          KK   51C1D
 119          KM   DIVERT 67 PERCENT OF 51C TO WEST (33 PERCENT TO SOUTH)
 120          DT  51C1DV
 121          DI       0   10000
 122          DQ       0    6700
              *

 123          KK   51C1R
 124          KM   ROUTE 51C1D THROUGH SUBBASIN 52C1
 125          RK   1350   .0364    .045            TRAP      10      10
              *

 126          KK    52C1
 127          KM   RUNOFF FROM SUBBASIN 52C1
 128          BA    .029
 129          LS              75    20.5
 130          UK    100     .02     .10     100
 131          RK   1350    .021    .045            TRAP      30      10
              *

 132          KK   52C1C
 133          KM   COMBINE 51C1R AND 52C1
 134          HC       2   .0611
              *

 135          KK   52C1R
 136          KM   ROUTE 52C1C THROUGH BASIN 52C2A TO CP 52C2BC
 137          RK   1500    .033    .045            TRAP      10      10
              *

 138          KK   52C2A
 139          KM   RUNOFF FROM SUBBASIN 52C2A
 140          BA    .019
 141          LS              75       2
 142          UK    100     .02     .10     100
 143          RK   1500    .033    .045            TRAP      30      10
              *

 144          KK  52C2AC
 145          KM   COMBINE 52C2A AND 52C1R
 146          HC       2
              *

 147          KK   52C2B
 148          KM   RUNOFF FROM SUBBASIN 52C2B
 149          BA   .0275
 150          LS              75      11
 151          UK    100     .02     .10     100
 152          RK   2000    .030    .045            TRAP      30      10
              *
1                                        HEC-1 INPUT                                          PAGE  5

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

 153          KK  52C2BC
 154          KM   COMBINE 52C2B AND 52C2AC
 155          HC       2
              *

 156          KK  52C2BR
 157          KM   ROUTE 52C2BC THROUGH 52C2C TO CP 52C2CC
 158          RK   1500    .040    .045            TRAP      10      10
              *

 159          KK   52C2C
```

```
160          KM   RUNOFF FROM SUBBASIN 52C2C
161          BA    .014
162          LS              75      62
163          UK     100     .02     .10     100
164          RK    1500     .04    .045            TRAP      30      10
             *

165          KK  52C2CC
166          KM   COMBINE 52C2C AND 52C2BR
167          HC       2
             *

168          KK   52C2R
169          KM   ROUTE 52C2CC THROUGH SUBBASIN 52C4 TO CP 52C4C1
170          RK    1550    .030    .045            TRAP      10      10
             *

171          KK    52C4
172          KM   RUNOFF FROM SUBBASIN 52C4
173          BA    .017
174          LS              75      60
175          UK     100     .02     .10     100
176          RK    1550    .030    .045            TRAP      30      10
             *

177          KK  52C4C1
178          KM   COMBINE 52C4 AND 52C2R
179          HC       2
             *

180          KK  52C4C2
181          KM   COMBINE 52C4C1 AND 52C3BR
182          HC       2
             *

183          KK   52C4R
184          KM   ROUTE 52C4C2 WEST IN BEARDSLEY CHANNEL TO CP 52C15C2
185          RK     850   .0143    .035            TRAP      50       4
             *
```



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

186          KK   52C13
187          KM   RUNOFF FROM SUBBASIN 52C13
188          BA    .023
189          LS              75      31
190          UK     100     .02     .10     100
191          RK     950    .040    .045            TRAP      30      10
             *

192          KK  2C13DV
193          KM   DIVERT FIRST 40 CFS INTO STORM DRAIN; REMAINDER FLOWS OVER ROAD
194          DT   STORM
195          DI       0      40    1000
196          DQ       0      40      40
             *
             * KK52C13R
             * KM ROUTE 52C13 THROUGH SUBBASIN 52C15 TO CP 52C15C1
             * RK  1800    .035    .045            TRAP      10      10
             *

197          KK   52C15
198          KM   RUNOFF FROM SUBBASIN 52C15
199          BA    .046
200          LS              75    64.4
201          UK     100     .02     .10     100
202          RK    2050    .036    .045            TRAP      30      10
             *

203          KK  2C15C1
204          KM   COMBINE 52C15 AND 52C13DV
205          HC       2    .046
             *

206          KK  2C15C2
207          KM   COMBINE 52C15C1 AND 52C4R
208          HC       2
             *

209          KK  52C15R
210          KM   ROUTE 52C15C2 IN BEARDSLEY CHANNEL TO CP 52C14C3
211          RK     750   .0143    .035            TRAP      50       4
             *

212          KK  52C14A
213          KM   RUNOFF FROM SUBBASIN 52C14A
214          BA    .041
215          LS              75    67.7
216          UK     100     .02     .10     100
217          RK    2050    .031    .045            TRAP      30      10
             *
```

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

 218          KK  2C14AC
 219          KM   COMBINE 52C14A AND 52C15R
 220          HC       2
              *

 221          KK  2C14AR
 222          KM   ROUTE 52C14AC IN BEARDSLEY CHANNEL TO CP 52C14BC2
 223          RK     380   .0143    .035            TRAP      50       4
              *
              *

 224          KK  51C1DV
 225          KM   RETRIEVE DIVERTED FLOW
 226          DR  51C1DV
              *

 227          KK   51C2D
 228          KM   DIVERT 27 PERCENT OF 51C1DV TO WEST (73 PERCENT TO SOUTH)
 229          DT  51C2DV
 230          DI       0   10000
 231          DQ       0    2700
              *

 232          KK   51C2R
 233          KM   ROUTE 51C2D THROUGH SUBBASIN 52C5 TO CP 52C5C
 234          RK     700    .030    .045            TRAP      10      10
              *

 235          KK    52C5
 236          KM   RUNOFF FROM SUBBASIN 52C5
 237          BA    .016
 238          LS              75      27
 239          UK     100     .02     .10     100
 240          RK    1200     .03    .045            TRAP      30      10
              *

 241          KK   52C5C
 242          KM   COMBINE 51C2R AND 52C5
 243          HC       2   .0635
              *

 244          KK   52C5R
 245          KM   ROUTE 52C5C THROUGH SUBBASIN 52C6 TO CP 52C6C
 246          RK    3100    .035    .045            TRAP      10      10
              *

 247          KK    52C6
 248          KM   RUNOFF FROM SUBBASIN 52C6
 249          BA    .036
 250          LS              75    31.4
 251          UK     100     .02     .10     100
 252          RK    3100    .035    .045            TRAP      30      10
              *
1                                        HEC-1 INPUT                                          PAGE  8

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

 253          KK   52C6C
 254          KM   COMBINE 52C5R AND 52C6
 255          HC       2
              *

 256          KK   52C6R
 257          KM   ROUTE 52C6C THROUGH SUBBASIN 52C10 TO CP 52C10C2
 258          RK     450    .032    .045            TRAP      10      10
              *

 259          KK  51C2DV
 260          KM   RETRIEVE 52C2DV
 261          DR  51C2DV
              *

 262          KK   51C3R
 263          KM   ROUTE 52C2DV THROUGH SUBBASIN 52C7 TO CP 52C7C
 264          RK     700    .040    .045            TRAP      10      10
              *

 265          KK     51B     SUB
 266          KM        RUNOFF FROM SUB 51B
 267          KM        THE RTIMP FOR THIS SUBBASIN IS REDUCED TO 5% TO ACCOUNT FOR EXISTING
 268          KM        CONDITIONS.
 269          BA   .5711
 270          LS              70       5
 271          UK     100   .0213     .10     100
 272          RK    8900   .0300    .045            TRAP      50      25
              *

 273          KK   51B1D
 274          KM   DIVERT 92 PERCENT OF SUBBASIN 51B TO WEST (8 PERCENT TO SOUTH)
 275          DT  51B1DV
 276          DI       0   10000
```

```
 277          DQ       0    9200
              *

 278          KK   51B1R
 279          KM    ROUTE 51B1D THROUGH SUBBASIN 52C7 TO CP 52C7C
 280          RK     450     .04    .045            TRAP      10      10
              *

 281          KK    52C7
 282          KM   RUNOFF FROM SUBBASIN 52C7
 283          BA    .006
 284          LS              75      27
 285          UK     100     .02     .10     100
 286          RK     550     .04    .045            TRAP      30      10
              *
1                                          HEC-1 INPUT                                                    PAGE  9

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

 287          KK   52C7C
 288          KM   COMBINE 51B1R, 51C3R, AND 52C7
 289          HC       3   .0693
              *

 290          KK   52C7R
 291          KM   ROUTE 52C7C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 292          RK    1550    .036    .045            TRAP      10      10
              *

 293          KK  51B1DV
 294          KM   RETRIEVE DIVERTED FLOW 51B1DV
 295          DR  51B1DV
              *

 296          KK   51B2D
 297          KM   DIVERT 84 PERCENT OF 51B1DV TO WEST (16 PERCENT TO SOUTH)
 298          DT  51B2DV
 299          DI       0   10000
 300          DQ       0    8400
              *

 301          KK   51B2R
 302          KM   ROUTE 51B2D THROUGH SUBBASIN 52C8 TO CP 52C8C
 303          RK     750    .034    .045            TRAP      10      10
              *

 304          KK    52C8
 305          KM   RUNOFF FROM SUBBASIN 52C8
 306          BA    .008
 307          LS              75      27
 308          UK     100     .02     .10     100
 309          RK     750    .034    .045            TRAP      30      10
              *

 310          KK   52C8C
 311          KM   COMBINE 51B2R AND 52C8
 312          HC       2   .4493
              *

 313          KK   52C8R
 314          KM   ROUTE 52C8C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 315          RK    1100    .036    .045            TRAP      10      10
              *

 316          KK  52C9C1
 317          KM   COMBINE 52C7R AND 52C8R
 318          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 10

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

 319          KK  52C9R1
 320          KM   ROUTE 52C9C1 THROUGH SUBBASIN 52C9 TO CP 52C9C2
 321          RK    1050    .036    .045            TRAP      10      10
              *

 322          KK    52C9
 323          KM   RUNOFF FROM SUBBASIN 52C9
 324          BA    .069
 325          LS              75   31.85
 326          UK     100     .02     .10     100
 327          RK    3150    .036    .045            TRAP      30      10
              *

 328          KK  52C9C2
 329          KM   COMBINE 52C9R1 AND 52C9
 330          HC       2
              *

 331          KK  52C9R2
 332          KM   ROUTE 52C9C2 THROUGH SUBBASIN 52C10 TO CP 52C10C1
 333          RK     500    .032    .045            TRAP      10      10
```

```
                 *

334              KK  2C10C1
335              KM   COMBINE 52C9R2 AND 52C6R
336              HC       2
                 *

337              KK  2C10R1
338              KM   ROUTE 52C10C1 THROUGH SUBBASIN 52C10 TO CP 52C10C2
339              RK     300    .032    .045            TRAP      10       10
                 *

340              KK   52C10
341              KM   RUNOFF FROM SUBBASIN 52C10
342              BA    .014
343              LS              75    7.85
344              UK     100     .02     .10     100
345              RK     800    .032    .045            TRAP      30       10
                 *

346              KK  2C10C2
347              KM   COMBINE 52C10R1 AND 52C10
348              HC       2
                 *

349              KK   52C11
350              KM   RUNOFF FROM SUBBASIN 52C11
351              BA   .0425
352              LS              75      27
353              UK     100     .02     .10     100
354              RK    2800    .031    .045            TRAP      30       10
                 *
1                                          HEC-1 INPUT                                                    PAGE 11

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

355              KK  2C11R1
356              KM   PIPE ROUTE 52C11 TO CP 52C11C
357              RK     650     .02    .045            CIRC       3
                 *

358              KK  52C13D
359              KM   RETRIEVE DIVERTED FLOW
360              DR   STORM
                 *

361              KK  52C11C
362              KM   COMBINE 52C13D AND 52C11R1
363              HC       2   .0655
                 *

364              KK  2C11CR
365              KM   PIPE ROUTE 52C11C TO CP 52C11C2
366              RK     750     .02    .045            CIRC       3
                 *

367              KK  2C11C2
368              KM   COMBINE 52C11CR AND 52C10C2
369              HC       2
                 *

370              KK  2C11R2
371              KM   ROUTE 52C11C2 THROUGH SUBBASIN 52C12 TO CP 52C12C
372              RK     700     .03    .045            TRAP      10       10
                 *

373              KK   52C12
374              KM   RUNOFF FROM SUBBASIN 52C12
375              BA    .023
376              LS              75      85
377              UK     100     .02     .10     100
378              RK     900     .03    .045            TRAP      30       10
                 *

379              KK  52C12C
380              KM   COMBINE 52C11R2 AND 52C12
381              HC       2
                 *

382              KK  52C12R
383              KM   ROUTE 52C12C THROUGH SUBBASIN 52C14 TO CP 52C14C1
384              RK    1150    .029    .045            TRAP      10       10
                 *

385              KK  52C14B
386              KM   RUNOFF FROM SUBBASIN 52C14B
387              BA    .021
388              LS              75      60
389              UK     100     .02     .10     100
390              RK    1250    .029    .045            TRAP      30       10
                 *
1                                          HEC-1 INPUT                                                    PAGE 12

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

```
391          KK  C14BC1
392          KM   COMBINE 52C14B AND 52C12R
393          HC       2
             *

394          KK  C14BC2
395          KM   COMBINE 52C14BC1 AND 52C14AR
396          HC       2
             *

397          KK  52C14R
398          KM   ROUTE 52C14C3 WEST IN BEARDSLEY CHANNEL TO CP 52B5C2
399          RK     600   .0143    .035            TRAP      50       4
             *

400          KK  51B2DV
401          KM   RETRIEVE DIVERTED FLOW
402          DR  51B2DV
             *

403          KK   51B3D
404          KM   DIVERT 84 PERCENT OF 51B2DV TO WEST (16 PERCENT TO SOUTH)
405          DT  51B3DV
406          DI       0   10000
407          DQ       0    8400
             *

408          KK   51B3R
409          KM   ROUTE 51B3D THROUGH SUBBASIN 52B1 TO CP 52B1C
410          RK     600    .039    .045            TRAP      10      10
             *

411          KK    52B1
412          KM   RUNOFF FROM SUBBASIN 52B1
413          BA    .003
414          LS              75      27
415          UK     100     .02     .10     100
416          RK     600    .039    .045            TRAP      30      10
             *

417          KK   52B1C
418          KM   COMBINE 51B3R AND 52B1
419          HC       2   .0736
             *

420          KK   52B1R
421          KM   ROUTE 52B1C THROUGH SUBBASIN 52B2 TO CP 52B2C1
422          RK     930    .037    .045            TRAP      10      10
             *
```



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

423          KK  51B3DV
424          KM   RETRIEVE DIVERTED FLOW 51B3DV
425          DR  51B3DV
             *

426          KK   51B4D
427          KM   DIVERT 82 PERCENT OF 51B3DV TO WEST (18 PERCENT TO SOUTH)
428          DT  51B4DV
429          DI       0   10000
430          DQ       0    8200
             *

431          KK  51B4R1
432          KM   ROUTE 51B4D THROUGH SUBBASIN 52B2 TO CP 52B2C1
433          RK    1350    .037    .045            TRAP      10      10
             *

434          KK  52B2C1
435          KM   COMBINE 51B4R1 AND 52B1R
436          HC       2   .1403
             *

437          KK  52B2R1
438          KM   ROUTE 52B2R1 THROUGH SUBBASIN 52B2 TO CP 52B2C2
439          RK    1000    .037    .045            TRAP      10      10
             *

440          KK    52B2
441          KM   RUNOFF FROM SUBBASIN 52B2
442          BA    .032
443          LS              75      17
444          UK     100     .02     .10     100
445          RK    2350    .037    .045            TRAP      30      10
             *

446          KK  52B2C2
447          KM   COMBINE 52B2 AND 52B2R1
448          HC       2
             *
```

```
449          KK  52B2R2
450          KM   ROUTE 52B2C2 THROUGH SUBBASIN 52B3 TO CP 52B3C2
451          RK     850    .026    .045            TRAP      10      10
             *

452          KK  52B3R1
453          KM   ROUTE 52B3C1 THROUGH SUBBASIN 52B3 TO CP 52B3C2
454          RK     500    .024    .045            TRAP      10      10
             *
```



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

455          KK    52B3
456          KM   RUNOFF FROM SUBBASIN 52B3
457          BA    .062
458          LS              75    31.8
459          UK     100     .02     .10     100
460          RK    3450    .030    .045            TRAP      30      10
             *

461          KK  52B3C2
462          KM   COMBINE 52B3 AND 52B3R1
463          HC       2
             *

464          KK  52B3R2
465          KM   ROUTE 52B3C2 THROUGH 52B4 TO CP 52B4C
466          RK    1700    .024    .045            TRAP      10      10
             *

467          KK    52B4
468          KM   RUNOFF FROM SUBBASIN 52B4
469          BA    .026
470          LS              75      62
471          UK     100     .02     .10     100
472          RK    1700    .024    .045            TRAP      30      10
             *

473          KK   52B4C
474          KM   COMBINE 52B4 AND 52B3R2
475          HC       2
             *

476          KK   52B4R
477          KM   ROUTE 52B4C THROUGH SUBBASIN 52B5 TO CP 52B5C1
478          RK     550    .027    .045            TRAP      10      10
             *

479          KK    52B5
480          KM   RUNOFF FROM SUBBASIN 52B5
481          BA    .021
482          LS              75    56.9
483          UK     100     .02     .10     100
484          RK    1400     .03    .045            TRAP      30      10
             *

485          KK  52B5C1
486          KM   COMBINE 52B5 AND 52B4R
487          HC       2
             *
```



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

488          KK  52B5C2
489          KM   COMBINE 52B5C1 AND 52C14R
490          HC       2
             *

491          KK   52B5R
492          KM   ROUTE 52B5C2 IN BEARDSLEY CHANNEL TO CP 52B7C2
493          RK    1100   .0143    .035            TRAP      50       4
             *

494          KK  51B4DV
495          KM   RETRIEVE DIVERTED FLOW 51B4DV
496          DR  51B4DV
             *

497          KK   51B5D
498          KM   DIVERT 68 PERCENT OF 51B4DV TO WEST (32 PERCENT TO SOUTH)
499          DT  51B5DV
500          DI       0   10000
501          DQ       0    6800
             *

502          KK   51B5R
503          KM   ROUTE 51B5D THROUGH SUBBASIN 52B6 TO CP 51B7C
504          RK    1250    .035    .045            TRAP      10      10
             *
```

```
 505          KK  51B5DV
 506          KM   RETRIEVE DIVERTED FLOW
 507          DR  51B5DV
              *

 508          KK   51B6D
 509          KM   DIVERT 53 PERCENT OF 51B5DV TO WEST (47 PERCENT TO SOUTH)
 510          DT  51B6DV
 511          DI       0   10000
 512          DQ       0    5300
              *

 513          KK   51B6R
 514          KM   ROUTE 51B6D THROUGH SUBBASIN 52B6 TO CP 51B7C
 515          RK     925    .033    .045            TRAP      10      10
              *

 516          KK  51B6DV
 517          KM   RETRIEVE DIVERTED FLOW 51B6DV
 518          DR  51B6DV
              *
1                                        HEC-1 INPUT                                          PAGE 16

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

 519          KK   51B7D
 520          KM   DIVERT 58 PERCENT OF 51B6DV TO WEST (42 PERCENT TO SOUTH)
 521          DT  51B7DV
 522          DI       0   10000
 523          DQ       0    5800
              *

 524          KK  51B7R1
 525          KM   ROUTE 51B7D THROUGH SUBBASIN 52B6 TO CP 51B7C
 526          RK     530    .033    .045            TRAP      10      10
              *

 527          KK   51B7C
 528          KM   COMBINE 51B7R1, 51B5R, AND 51B6R
 529          HC       3   .2404
              *

 530          KK  51B7R2
 531          KM   ROUTE 51B7C THROUGH SUBBASIN 52B6 TO CP 52B6C
 532          RK    2300    .033    .045            TRAP      10      10
              *

 533          KK    52B6
 534          KM   RUNOFF FROM SUBBASIN 52B6
 535          BA    .096
 536          LS              75   13.55
 537          UK     100     .02     .10     100
 538          RK    3200    .033    .045            TRAP      30      10
              *

 539          KK   52B6C
 540          KM   COMBINE 51B7R2 AND 52B6
 541          HC       2
              *

 542          KK   52B6R
 543          KM   ROUTE 52B6C THROUGH SUBBASIN 52B7 TO CP 52B7C1
 544          RK    2750    .028    .045            TRAP      10      10
              *

 545          KK    52B7
 546          KM   RUNOFF FROM SUBBASIN 52B7
 547          BA    .080
 548          LS              75   78.45
 549          UK     100     .02     .10     100
 550          RK    2750    .028    .045            TRAP      30      10
              *

 551          KK  52B7C1
 552          KM   COMBINE 52B7 AND 52B6R
 553          HC       2
              *
1                                        HEC-1 INPUT                                          PAGE 17

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

 554          KK  52B7C2
 555          KM   COMBINE 52B7C1 AND 52B5R
 556          HC       2
              *

 557          KK    52A2
 558          KM   RUNOFF FROM SUBBASIN 52A2
 559          BA    .065
 560          LS              75    88.8
 561          UK     100     .02     .10     100
 562          RK    2900    .023    .045            TRAP      30      10
              *
```

```
563          KK  52A2C2
564          KM   COMBINE 52B7C2 AND 52A2
565          HC       2    1.62
             *

566          KK  51B7DV
567          KM   RETRIEVE DIVERTED FLOW 51B7DV
568          DR  51B7DV
             *

569          KK   51B8R
570          KM   ROUTE 51B7DV THROUGH SUBBASIN 52A1 TO CP 52A1C
571          RK    3400    .033    .045            TRAP      10      10
             *

572          KK    52A1
573          KM   RUNOFF FROM SUBBASIN 52A1
574          BA    .130
575          LS              75   32.25
576          UK     100     .02     .10     100
577          RK    3400    .033    .045            TRAP      30      10
             *

578          KK   52A1C
579          KM   COMBINE 52A1 AND 51B8R
580          HC       2
             *
             *
             *     ******************  END DC RANCH WATERSHED  ******************
             *
             *
             *     *****************  BEGIN GVSCE MODIFICATIONS  *****************
             *

581          KK   D51.1
582          KM   RETRIEVE DIVERTED FLOW
583          DR  B51.1T
             *
1                                        HEC-1 INPUT                                          PAGE 18

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

584          KK    C52A
585          KM     COMBINE ROUTED HYDROGRAPH FROM C51.1 WITH HYDROGRAPH FROM C52A1C AT
586          KM     THOMPSON PEAK PARKWAY
587          HC       2  1.2600
             *
             *   R52A
             *    DEER VALLEY BASIN OUTLET CONDUIT TO JUNCTION AT SIERRA PINTA CHANNEL
             *    NO ROUTING IN CONDUIT.
             *       L = 3130 feet
             *

588          KK     C52
589          KM     COMBINE ROUTED HYDROGRAPH FROM C52A WITH HYDROGRAPH FROM C52A2C AT
590          KM     BEARDSLEY ROAD
591          HC       2  2.9025
             *

592          KK     R52
593          KM     LAG THE HYDROGRAPH BY ONE TIME STEP TO ACCOUNT FOR TRAVEL TIME IN THE
594          KM     CONDUIT.
595          KM        ASSUME WAVE CELERITY = 15-20 fps AND TOTAL LENGTH OF 4050'
596          RT                        1
             *
             *

597          KK    D52T
598          KM     DIVERT 100% OF FLOW TO RETRIEVE JUST U/S OF THE PIMA FREEWAY EAST-BASIN
599          DT    B52T
600          DI       0   10000
601          DQ       0   10000
             *

602          KK   CLEAR
603          KM     CLEAR HYDROGRAPHS FROM STACK
604          HC       2
             *
             *
             *     *****************  BEGIN GRAYHAWK WATERSHED  ******************
             *
             *       THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
             *           DEI FILE NAME:  GH23FAB.H1I
             *           MODEL DATE:     21 MAY 96
             *

605          KK      1B
606          KM        RUNOFF FROM INTERIM SUBBASIN 1B
607          BA  0.3573
608          LS            73.5      15
609          UK     300    0.02    0.13     100
610          RK    1420    0.02   0.045   0.015    TRAP       5      10
611          RK    7000    0.02    0.04            TRAP      10       5
```

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

                *
 612            KK   37AE1      CP
 613            KM        ROUTE NON-DIVERTED FLOW FROM DIV 37AE THROUGH SUB 5N.  THIS IS A
 614            KM        PRELIMINARY CHANNEL CONFIGURATION FOR THE GOLF COURSE CHANNEL.
 615            RS       1    FLOW
 616            RC    .055    .045    .055     800    .025
 617            RX       0      16      26      30      40      44      54      70
 618            RY       6       2       2       0       0       2       2       6
                *

 619            KK   SUB5N
 620            KM        RUNOFF FROM SUBBASIN 5 IN NORTH 18 MODEL.
 621            BA   0.029
 622            LS             77      18
 623            UK     100    .013     .15     100
 624            RK    1000   0.005    .018    .015    TRAP      50      20
 625            RK     500    .015    .025            TRAP      10       4
                *

 626            KK    CP5N
 627            KM        ADD HYDROGRAPHS AT CP5N
 628            HC       2
                *

 629            KK   RET5N
 630            KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 5.  18" PIPE OUTFLOW WILL
 631            KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
 632            RS       1    STOR       0       0
 633            SV       0     .04     .33     .93     1.8    2.35    3.16     4.2     6.1
 634            SQ       0       8      10      12      15      17     102     191     668
 635            SE    1797    1798    1800    1802    1804    1805    1806    1807    1808
                *

 636            KK   R6N.1
 637            KM        ROUTE FLOW FROM CP5 TO CP6 IN NORTH 18 MODEL
 638            KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
 639            KM        CHANNEL.
 640            RS       1    FLOW
 641            RC    .055    .045    .055    2200    .025
 642            RX       0      16      26      30      40      44      54      70
 643            RY       6       2       2       0       0       2       2       6
                *

 644            KK   SUB6B
 645            KM        RUNOFF FROM WEST PORTION OF EXISTING SUB6N ADJACENT TO CHANNEL
 646            BA    .032
 647            LS             81       0
 648            UK     200    .025     .15     100
 649            RK    1300    .015    .025            TRAP      10       4
                *
```



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

 650            KK    SR6B
 651            KM        ROUTE FLOW THROUGH RETENTION BASIN IN DRIVING RANGE CHANNEL
 652            RS       1    STOR       0       0
 653            SV       0     .17     .57    1.12    1.78
 654            SQ       0       8      10     120     380
 655            SE    1772    1773    1774    1775    1776
                *

 656            KK   CP6.1
 657            KM        ADD HYDROGRAPHS AT CP6.1
 658            HC       2
                *

 659            KK   SUB1N
 660            KM        RUNOFF FROM SUBBASIN 1N
 661            BA    .019
 662            LS             77      18
 663            UK     100    .013     .15     100
 664            RK    1470   .0204    .018            TRAP      50      20
                *

 665            KK    R2NA
 666            KM        ROUTE FLOW FROM CP1 TO CP2NA
 667            RS       1    FLOW
 668            RC     .03     .03     .03     400    .025
 669            RX       0       8      13      17      22      26      31      39
 670            RY       4       2       2       0       0       2       2       4
                *

 671            KK  SUB2NA
 672            KM        RUNOFF FROM SUBBASIN 2NA
 673            BA    .015
 674            LS             81       0
 675            UK     150    .013     .15     100
 676            RK    1050   .0215    .025            TRAP      20       6
```

```
                 *
677              KK   CP2NA
678              KM        ADD HYDROGRAPHS AT CP2NA
679              HC       2
                 *

680              KK   SR2NA
681              KM        ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NA
682              RS       1    STOR       0       0
683              SV       0    .076    .291    .708     1.2
684              SQ       0       0       0       0     160
685              SE    1772    1773    1774    1775    1776
                 *
1                                          HEC-1 INPUT                                                    PAGE 21

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


686              KK    R2NB
687              KM        ROUTE FLOW FROM CP2NA TO CP2NB
688              RS       1    FLOW
689              RC     .03     .03     .03    1050    .015
690              RX       0       8      13      17      22      26      31      39
691              RY       4       2       2       0       0       2       2       4
                 *

692              KK  SUB2NB
693              KM        RUNOFF FROM SUBBASIN 2NB
694              BA     .03
695              LS              77      53
696              UK     150    .013     .15     100
697              RK    1200    .015    .025            TRAP      20      50
                 *

698              KK   CP2NB
699              KM        ADD HYDROGRAPHS AT CP2NB
700              HC       2
                 *

701              KK   SR2NB
702              KM        STORAGE ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NB
703              RS       1    STOR       0       0
704              SV       0     .19     .69    1.66    3.23     4.5
705              SQ       0       2       8      12      17     170
706              SE    1796    1798    1800    1802    1804    1805
                 *

707              KK   RCP4N
708              KM        ROUTE FLOW FROM CP2NB TO CP4N
709              RS       1    FLOW
710              RC     .03     .03     .03     740    .018
711              RX       0       8      13      17      22      26      31      39
712              RY       4       2       2       0       0       2       2       4
                 *

713              KK   SUB6N
714              KM        RUNOFF FROM SUBBASIN 6 IN NORTH 18 MODEL.  TO LAKE NORTH OF CLUBHOUSE.
715              BA    .049
716              LS              81       0
717              UK     200    .025     .15     100
718              RK    1300    .015    .025            TRAP      10       4
                 *

719              KK   RET6N
720              KM        RETENTION ROUTING THROUGH LAKE AT HOLE 18, NORTH COURSE.
721              RS       1    STOR
722              SV       0    3.01    6.64   10.75   13.09   15.90
723              SQ       0       0       0      10      26     100
724              SE    1782    1784    1786    1788    1789    1790
                 *
1                                          HEC-1 INPUT                                                    PAGE 22

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


725              KK  RCP4N1
726              KM        ROUTE FLOW FROM CP6N TO CP4N
727              RS       1    FLOW
728              RC     .03     .03     .03     550    .018
729              RX       0       8      13      17      22      26      31      39
730              RY       4       2       2       0       0       2       2       4
                 *

731              KK  CP4N.1
732              KM        ADD HYDROGRAPHS AT CP4N.1
733              HC       2
                 *

734              KK   SUB3N
735              KM        RUNOFF FROM SUBBASIN 3N, NORTH 18 MODEL
736              BA    .027
737              LS              81       0
738              UK     100     .02     .15     100
739              RK    2800  0.0207    .025            TRAP      10       4
```

```
                 *
 740             KK   RET3N
 741             KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 3.  18" PIPE OUTFLOW WILL
 742             KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
 743             RS       1    STOR       0       0
 744             SV       0    1.73    8.97   13.32   15.74
 745             SQ       0       4       7       9      11
 746             SE    1793    1795    1800    1803    1804
                 *

 747             KK     R4N
 748             KM        ROUTE FLOW FROM CP3N TO CP4N IN NORTH MODEL
 749             RS       1    FLOW
 750             RC    .035    .035    .035     950    .018
 751             RX       0       8      13      17      22      26      31      39
 752             RY       4       2       2       0       0       2       2       4
                 *

 753             KK  CP4N.2
 754             KM        ADD HYDROGRAPHS AT CPN.2
 755             HC       2
                 *

 756             KK   SUB4N
 757             KM        RUNOFF FROM SUBBASIN 4N.
 758             BA    .032
 759             LS              77      18
 760             UK     100    .015     .15     100
 761             RK    1200   0.007    .018            TRAP      50      20
                 *
1                                          HEC-1 INPUT                                          PAGE 23

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

 762             KK    CP4N
 763             KM        ADD HYDROGRAPHS AT CP4N
 764             HC       2
                 *

 765             KK     R6N
 766             KM        ROUTE FLOW FROM CP4N TO CP6N ALONG THOMPSON PEAK PKWY AT CLUBHOUSE
 767             RS       1    FLOW
 768             RC    .045    .035    .045     750    .025
 769             RX       0       8      13      17      22      26      31      39
 770             RY       4       2       2       0       0       2       2       4
                 *

 771             KK   SUB6A
 772             KM        RUNOFF FROM SUBBASIN 6A (CLUBHOUSE AREA NORTH OF THOMPSON PEAK PKWY).
 773             BA    .013
 774             LS              83      68
 775             UK     100    .015     .12     100
 776             RK     800     .01    .025            TRAP       2       3
                 *

 777             KK   CP6.2
 778             KM        ADD HYDROGRAPHS AT CP6.2
 779             HC       2
                 *

 780             KK    CP6N
 781             KM        ADD HYDROGRAPHS AT CP6N
 782             HC       2
                 *
                 *       ABOVE DISCHARGE FROM NORTH 18 THROUGH BRIDGE AT TPP STATION 103+45
                 *

 783             KK   RCP6N
 784             KM        ROUTE FLOW FROM CP6N TO CP3C
 785             RS       1    FLOW
 786             RC    .045    .035    .045     300    .015
 787             RX       0       8      13      17      37      45      51      59
 788             RY       4       2       2       0       0       2       2       4
                 *

 789             KK   SUB3C
 790             KM        RUNOFF FROM SUBBASIN 3C, SOUTH COURSE AT MAINTENANCE FACILITY.
 791             BA   .0104
 792             LS              77      68
 793             UK     100    .025     .02     100
 794             RK     600    .015    .035            TRAP      50      20
                 *
1                                          HEC-1 INPUT                                          PAGE 24

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

 795             KK    CP3C
 796             KM        COMBINE NORTH COURSE HYDROGRAPH WITH FIRST SOUTH COURSE HYDROGRAPH
 797             HC       2
                 *

 798             KK     R3C
```

```
799          KM        ROUTE FLOW FROM SUB3C TO CP3 THROUGH GC1018
800          KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
801          KM        CHANNEL.
802          RS       1    FLOW
803          RC    .055    .045    .055    2050    .025
804          RX       0      20      30      40      60      70      80     100
805          RY    1650    1746    1744    1742    1742    1744    1746    1750
             *

806          KK  GC1018
807          KM        RUNOFF FROM HOLES NO. 10, 18 AND DRIVING RANGE THAT CONTRIBUTE TO WASH
808          BA    .044
809          LS              81       0
810          UK     200    .025     .15     100
811          RK    1800   .0233    .025            TRAP      10       4
             *

812          KK   GC1-9
813          KM        RUNOFF FROM GOLF COURSE HOLES 1 & 9 CONTRIBUTING TO WASH
814          BA    .026
815          LS              81       0
816          UK     200    .025     .15     100
817          RK    2110    .022    .025            TRAP      10       4
             *

818          KK   SUB3S
819          KM        RUNOFF FROM SUB BASIN 3 SOUTH COURSE
820          BA   .0102
821          LS              77      53
822          UK     100    .010     .15     100
823          RK     930    .016    .025            TRAP      50      20
             *

824          KK    CP3S
825          KM        COMBINE HYDROGRAPHS AT CP3 SOUTH COURSE
826          HC       4
             *

827          KK    RT3S
828          KM        ROUTE FLOW FROM CP3S TO CPGC28
829          RS       1    FLOW       0       0
830          RC    .055    .045    .055     900    .023
831          RX       0      20      30      40      60      70      80     100
832          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *
```



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

833          KK   SUB4S
834          KM        RUNOFF FROM SUB BASIN 4 SOUTH COURSE
835          BA   .0273
836          LS              77      53
837          UK     100    .010     .15     100
838          RK    1780    .018    .015            TRAP      50      20
             *

839          KK    RT4S
840          KM        ROUTE FLOW FROM CP4S TO CPGC28
841          RS       1    FLOW       0       0
842          RC    .035    .035    .035     650    .015
843          RX       0      20      30      40      45      55      65      75
844          RY    1750    1746    1744    1742    1742    1744    1746    1750
             *

845          KK   GC2-8
846          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES NO. 2 AND 8
847          BA    .014
848          LS              81       0
849          UK     200    .025     .15     100
850          RK     980    .016    .025            TRAP      10       4
             *

851          KK  1PGC28
852          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
853          HC       3
             *

854          KK  SUB3D3
855          KM        RUNOFF FROM GRAYHAWK ROAD SOUTH OF THOMPOSON PEAK
856          BA    .014
857          LS              81       0
858          UK      50    .015      .1     100
859          RK    2450    .016    .025            TRAP       5       4
             *

860          KK  CPGC28
861          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
862          HC       2
             *

863          KK  SRGC28
864          KM        STORAGE THRU DETENTION BASIN ON HOLES 2 AND 8.
865          RS       1    STOR       0       0
```

```
866          SV      0    .018    .085     .22      .5     1.0     1.7    2.68     3.9
867          SE   1706    1707    1708    1709    1710    1711    1712    1713    1714
868          SQ      0      10      18      20      30     108     324     651    1070
             *
```



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

869          KK    RT7S
870          KM        ROUTE FLOW FROM SRGC28 TO CP7S
871          RS      1    STOR       0       0
872          RC   .055    .045    .055    1700   .0187
873          RX      0      20      30      40      60      70      80     100
874          RY   1750    1746    1744    1742    1742    1744    1746    1750
             *

875          KK     GC7
876          KM        RUNOFF FROM SOUTH GOLF COURSE HOLE NO. 7
877          BA   .0134
878          LS              81       0
879          UK    200    .025     .15     100
880          RK   1380    .020    .025            TRAP      10       4
             *

881          KK    CP7S
882          KM        ADD HYDROGRAPHS AT CP7S ON SOUTH COURSE
883          HC      2  0.7626
             *

884          KK    D7ST
885          KM        D7ST IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
886          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
887          KM
888          KM        DIVERT 100% OF FLOW
889          DT    B7ST
890          DI      0   10000
891          DQ      0   10000
             *

892          KK   CLEAR
893          KM        CLEAR HYDROGRAPHS FROM THE STACK.
894          HC      2
             *
             *
             * THIS PORTION OF MODEL TAKEN FROM,"DRAINAGE REPORT FOR VILLAGE 3 - PHASE 1",
             * APPROVED BY THE CITY OF SCOTTSDALE 7-19-95.  MODIFIED TO ACCOUNT FOR ASBUILT
             * CONDITION
             *
             *
             *
             *

895          KK  SUB3D1
896          KM        RUNOFF FROM SUBBASIN 3D1, PARCEL 3D.
897          BA   .0088
898          LS              77      34
899          UD     .06
             *
```



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

900          KK   RD1B1
901          KM        FOUTE FLOW FROM 3D1 TO 3B1
902          RS      1   FLOW      -1
903          RC   0.03    0.03    0.03    1250    .015
904          RX      0     0.5       1       7      12      19    19.5      20
905          RY    3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
             *

906          KK  SUB3B1
907          KM        RUNOFF FROM SUBBASIN 3B1, PARCEL 3B.
908          BA   .0137
909          LS              77      47
910          UD     .06
             *

911          KK   CP3B1
912          KM        ADD HYDROGRAGHS AT CP3B1
913          HC      2
             *

914          KK   RB13F
915          KM        ROUTE FLOW FROM 3B1 TO SUB3F
916          RS      1    FLOW      -1
917          RC   0.03    0.03    0.03    2150    .015
918          RX      0     0.5       1       7      17      24    24.5      25
919          RY    3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
             *

920          KK   SUB3F
921          KM        RUNOFF FROM SUBBASIN 3F, PARCEL 3F, SOUTH COURSE MODEL.
922          BA   .0344
```

```
923          LS              77      68
924          UK     100    .025     .15     100
925          RK    1000    .015    .025            TRAP     100      20
             *

926          KK    CP3F
927          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3F ALONG THE POWER CORRIDOR
928          HC       2
             *

929          KK  SUB3B2
930          KM        RUNOFF FROM SUBBASIN 3B2, PARCEL 3B.
931          BA   .0246
932          LS              77      40
933          UD     .10
             *

934          KK   RB2E1
935          KM        1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
936          RS       1    FLOW      -1
937          RC    0.03    0.03    0.03     800    0.02
938          RX       0     0.5       1       7      17      24    24.5      25
939          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
             *
1                                          HEC-1 INPUT                                          PAGE 28

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

940          KK   RB2E2
941          KM       SECOND 1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
942          RS       1    FLOW      -1
943          RC    0.03    0.03    0.03     600    .015
944          RX       0     0.5       1       7      17      24    24.5      25
945          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
             *

946          KK  SUB3E1
947          KM        RUNOFF FROM SUBBASIN 3E1, PARCEL 3E.
948          BA   .0246
949          LS              77      40
950          UD     .10
             *

951          KK  1CPE31
952          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E1 ALONG THE POWER CORRIDOR
953          HC       2
             *

954          KK  SUB3D2
955          KM        RUNOFF FROM SUBBASIN 3D2, PARCEL 3D.
956          BA    .022
957          LS              77      35
958          UD     .08
             *

959          KK   RD2E2
960          KM        ROUTE EXCESS FROM 3D2 TO CP3E2
961          RS       1    FLOW      -1
962          RC    0.03    0.03    0.03    1200   .0216
963          RX       0     0.5       1       7      17      24    24.5      25
964          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
             *

965          KK  SUB3E2
966          KM        RUNOFF FROM SUBBASIN 3E2, PARCEL 3E.
967          BA    .012
968          LS              77      35
969          UD     .06
             *

970          KK   CP3E2
971          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E2 ALONG THE POWER CORRIDOR
972          HC       2
             *

973          KK     PC3
974          KM        PC3 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
975          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
976          KM
977          KM        RUNOFF FROM SUBBASIN PC3.
978          BA  0.0434
979          LS              77      10
1                                          HEC-1 INPUT                                          PAGE 29

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

980          UK     300    .015     .15     100
981          RK    2200     .01     .03            TRAP      30       4
             *

982          KK    CPC3
983          KM        CPC3 IS A CONCENTRATION POINT ADDED BY GVSCE TO ESTIMATE THE INFLOW TO
984          KM        THE POWER LINE CHANNEL AT THE HAYDEN ROAD CROSSING.
985          KM
```

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 986          KM        COMBINE ROUTED HYDROGRAPH FROM SRPC2 W/HYDROGRAPHS FROM CP3E1, CP3E2 AND
 987          KM        CP3F AND RUNOFF FROM PC3.
 988          HC       4  0.1835
              *

 989          KK   DPC3T
 990          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
 991          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
 992          KM
 993          KM        DIVERT 100% OF FLOW
 994          DT   BPC3T
 995          DI       0   10000
 996          DQ       0   10000
              *

 997          KK  SUB3E3
 998          KM        RUNOFF FROM SUBBASIN 3E3, PARCEL 3E.
 999          BA    .020
1000          LS              77      32
1001          UD     .06
              *

1002          KK     PC4
1003          KM        PC4 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1004          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1005          KM
1006          KM        RUNOFF FROM SUBBASIN PC4.
1007          BA  0.0217
1008          LS              77       0
1009          UK     300    .015     .15     100
1010          RK    1100     .01     .03            TRAP      30       4
              *

1011          KK     D7S
1012          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1013          KM        LOOP DETENTION BASIN VIA THE POWER LINE CHANNEL.
1014          KM
1015          KM        RETRIEVE DIVERTED FLOW
1016          DR    B7ST
              *

1017          KK    CPC4
1018          KM        THE HEC1 OPREATION TEMPAD IS CHANGED BY GVSCE TO ESTIMATE THE INFLOW TO
1019          KM        THE POWER LINE CHANNEL WHERE THE FLOW FROM CP7S ENTERS THE CHANNEL.
1020          KM
1021          KM        COMBINE HYDROGRAPH FROM CP3E3 W/RUNOFF FROM PC4.
1022          HC       3  0.8043
              *
```



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

1023          KK   DPC4T
1024          KM        DPC3T IS A DIVERSION ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1025          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1026          KM
1027          KM        DIVERT 100% OF FLOW
1028          DT   BPC4T
1029          DI       0   10000
1030          DQ       0   10000
              *

1031          KK   CLEAR
1032          KM        CLEAR HYDROGRAPHS FROM THE STACK.
1033          HC       3
              *
              *
              *       THIS ENDS THE PORTION OF THE MODEL TAKEN FROM DRAINAGE REPORT
              *       FOR VILLAGE 3 - PHASE I HEC-1 MODEL BY GILBERTSON ASSOC. INC.
              *       DATED 7-19-95
              *
              *
              *
              * RETURN TO NORTH 18\VILLAGE 2\TPP3 MODEL.
              * THE REMAINDER OF THE SUBBASINS IN THIS  MODEL  WILL CONTRIBUTE TO THE
              * PROPOSED CHANNNEL IN THE POWER EASEMENT AS IDENTIFIED IN THE
              * "COMMUNITY DRAINAGE STUDY - CORE NORTH AND WILL DISCHARGE TO REGIONAL
              * RETENTION BASIN 38R1.
              *
              *

1034          KK     1A1
1035          KM        RUNOFF FROM INTERIM SUBBASIN 1A
1036          BA  0.7465
1037          LS              70       0
1038          UK     300    0.02    0.13     100
1039          RK    1420   0.032   0.045  0.0061    TRAP       0      13
1040          RK   10800   0.033   0.045            TRAP      10       9
              *

1041          KK    R1A1
1042          KM
1043          RS       3    FLOW      -1
1044          RC   0.035   0.035   0.035    6000   0.025
```

```
1045          RX    1000    1010    1020    1030    1080    1090    1100    1110
1046          RY       3       2       1       0       0       1       2       3
              *

1047          KK     1A2
1048          KM        RUNOFF FROM INTERIM SUBBASIN 1A
1049          BA  0.6108
1050          LS            74.5      25
1051          UK     150    0.01    0.10     100
1052          RK    1000    0.02   0.025   0.028    TRAP       0      20
1053          RK    5000   0.025   0.035            TRAP      50      10
              *
1                                          HEC-1 INPUT                                                    PAGE 31

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


1054          KK     C1A
1055          KM
1056          HC       2
              *

1057          KK    R14R
1058          KM        ROUTE FLOW FROM DIVERT AT DEER VALLEY ROAD (UPSTREAM OF SUBBAIN 5) TO
1059          KM        RET14.1
1060          RS       1    FLOW
1061          RC    .055    .045    .055    2900     .01
1062          RX       0      16      26      30      50      54      64      80
1063          RY       6       2       2       0       0       2       2       6
              * RET 141 HAS BEEN REVISED FOLLOWING REFINEMENT OF GRADING PLANS 11-16-94
              *

1064          KK  RET141
1065          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.1.  18" PIPE OUTFLOW WILL
1066          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1067          RS       1    STOR       0       0
1068          SV       0     .46    2.79    4.56    5.71    6.92    8.24
1069          SQ       0      11      15      22     147     463     968
1070          SE    1778    1785    1790    1792    1793    1794    1795
              *

1071          KK   R14.1
1072          KM        ROUTE FLOW FROM RET14.1 TO CP14
1073          KM        RET14.1
1074          RS       1    FLOW
1075          RC    .055    .045    .055    1900     .01
1076          RX       0      16      26      30      50      54      64      80
1077          RY       6       2       2       0       0       2       2       6
              *

1078          KK  SUB13N
1079          KM        RUNOFF FROM SUBBASIN 13 NORTH 18 MODEL.
1080          BA    .037
1081          LS              77      24
1082          UK     100    .015     .15     100
1083          RK    2400    .007    .018            TRAP      50      20
              *

1084          KK   R14.1
1085          KM        ROUTE FLOW FROM CP13 TO RET14 NORTH 18 MODEL.
1086          RS       1    FLOW
1087          RC    .055    .045    .055     950    .025
1088          RX       0       8      13      17      22      26      31      39
1089          RY       4       2       2       0       0       2       2       4
              *
1                                          HEC-1 INPUT                                                    PAGE 32

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


1090          KK  SUB14N
1091          KM        RUNOFF FROM SUBBASIN 14 NORTH 18 MODEL.
1092          BA    .049
1093          LS              81       0
1094          UK     300    .025     .15     100
1095          RK    2300     .01    .025            TRAP      10       4
              *

1096          KK    CP14
1097          KM        ADD HYDROGRAPHS AT CP14
1098          HC       3
              *

1099          KK   RET14
1100          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.  18" PIPE OUTFLOW WILL
1101          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1102          RS       1    STOR       0       0
1103          SV       0     .08     .31    1.01    2.16    3.20    4.19    5.69     7.8
1104          SQ       0      14      16      18      20      22     155     464     750
1105          SE    1744    1746    1748    1750    1752    1753    1754    1755    1756
              *

1106          KK   R18.1
1107          KM        ROUTE FLOW FROM RET14 TO CP18
1108          RS       1    FLOW
```

```
1109          RC    .055    .045    .055     500    .016
1110          RX       0      16      26      34      54      68      78      96
1111          RY       6       2       2       0       0       2       2       6
              *

1112          KK  SUB20N
1113          KM        RUNOFF FROM SUBBASIN 20.
1114          BA    .024
1115          LS              77      24
1116          UK     200     .01     .15     100
1117          RK    1400     .02    .018            TRAP      50      20
              *

1118          KK     R19
1119          KM        ROUTE FLOW FROM CP20 TO CP19
1120          RS       1    FLOW
1121          RC    .035    .035    .035     700     .02
1122          RX       0       8      13      17      22      26      31      39
1123          RY       4       2       2       0       0       2       2       4
              *

1124          KK  SUB19N
1125          KM        RUNOFF FROM SUBBASIN 19.
1126          BA    .038
1127          LS              77      31
1128          UK     150     .01     .15     100
1129          RK    1800    .015    .018            TRAP      50      20
              *
```



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

1130          KK   CP19N
1131          KM        ADD HYDROGRAPHS  AT CP19N
1132          HC       2
              *

1133          KK   R18NC
1134          KM        ROUTE FLOW FROM  CP19N TO CP18NC
1135          RS       1    FLOW
1136          RC    .035    .035    .035     700    .013
1137          RX       0       8      13      17      27      31      36      44
1138          RY       4       2       2       0       0       2       2       4
              *

1139          KK  UB18NC
1140          KM        RUNOFF FROM SUBBASIN 18NC.
1141          BA    .021
1142          LS              77      42
1143          UK     100     .01     .15     100
1144          RK    1550     .02    .018            TRAP      50      20
              *

1145          KK  CP18NC
1146          KM        ADD HYDROGRAPHS  AT CP18NC (INCLUDES R18.1, R18, AND SUB18)
1147          HC       3
              *

1148          KK    RPC1
1149          KM        ROUTE FLOW FROM CP18N TO CPC1.
1150          RS       1    FLOW
1151          RC    .035    .035    .035     510    .013
1152          RX       0      16      26      34      64      78      88     106
1153          RY       6       2       2       0       0       2       2       6
              *

1154          KK  UB18NA
1155          KM        RUNOFF FROM SUBBASIN 18NA.
1156          BA    .022
1157          LS              77      42
1158          UK     100     .01     .15     100
1159          RK    1450     .02    .018            TRAP      50      20
              *

1160          KK   1RPC1
1161          KM        ROUTE FLOW FROM CP18NA TO CPC1.
1162          RS       1    FLOW
1163          RC    .035    .035    .035    2550     .01
1164          RX       0      16      26      34      64      78      88     106
1165          RY       8       4       2       0       0       2       4       8
              *
```



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

1166          KK  UB18NB
1167          KM        RUNOFF FROM SUBBASIN 18NB.
1168          BA   .0096
1169          LS              77      42
1170          UK     100     .01     .15     100
1171          RK     800     .02    .018            TRAP      50      20
              *
```

```
1172          KK   2RPC1
1173          KM        ROUTE FLOW FROM CP18NB TO CPC1.
1174          RS       1    FLOW
1175          RC    .035    .035    .035    2000     .01
1176          RX       0      16      26      34      64      78      88     106
1177          RY       8       4       2       0       0       2       4       8
              *

1178          KK     PC1
1179          KM        RUNOFF FROM SUBBASIN PC1.
1180          BA    .062
1181          LS              77      10
1182          UK     500    .015     .15     100
1183          RK    2700     .01     .03            TRAP      30       4
              *

1184          KK   1CPC1
1185          KM        ADD HYDROGRAPHS  AT CPC1.
1186          HC       3
              *

1187          KK   SRPC1
1188          KM        STOAGE ROUTE THROUGH DET BASIN IN POWER CORRIDOR.
1189          RS       1    STOR       0       0
1190          SV       0     .29     .73
1191          SQ       0       0     350
1192          SE    1747    1748    1749
              *

1193          KK    CPC1
1194          KM        ADD HYDROGRAPHS  AT CPC1.
1195          HC       2
              *

1196          KK  R16NA1
1197          KM        ROUTE FLOW FROM CPC1 TO C16NA1.
1198          RS       1    FLOW
1199          RC    .035    .035    .035     700    .013
1200          RX       0      16      26      34      74      88      98     116
1201          RY       8       4       2       0       0       2       4       8
              *
```



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

1202          KK  UB16NA
1203          KM        RUNOFF FROM SUBBASIN 16NA.
1204          BA   .0139
1205          LS              77      42
1206          UK     100    .015     .15     100
1207          RK    1500    .015    .022            TRAP      50      20
              *

1208          KK  R16NA1
1209          KM        ROUTE FLOW FROM CP16NA TO CP16NA1.
1210          RS       1    FLOW
1211          RC    .035    .035    .035     550    .013
1212          RX       0      16      26      34      44      58      68      86
1213          RY       6       2       2       0       0       2       2       6
              *

1214          KK  C16NA1
1215          KM        ADD HYDROGRAPHS  AT CP16NA1.
1216          HC       2
              *

1217          KK  R16NB1
1218          KM        ROUTE FLOW FROM CP16NA1 TO CP16NB1.
1219          RS       1    FLOW
1220          RC    .035    .035    .035     650    .013
1221          RX       0      16      26      34      74      88      98     116
1222          RY       8       4       2       0       0       2       4       8
              *

1223          KK  UB16NB
1224          KM        RUNOFF FROM SUBBASIN 16NB.
1225          BA   .0156
1226          LS              77      42
1227          UK     100    .015     .15     100
1228          RK    1500    .015    .022            TRAP      50      20
              *

1229          KK  R16NB1
1230          KM        ROUTE FLOW FROM CP16NB TO CP16NB1.
1231          RS       1    FLOW
1232          RC    .035    .035    .035     550    .013
1233          RX       0      16      26      34      44      58      68      86
1234          RY       6       2       2       0       0       2       2       6
              *

1235          KK  C16NB1
1236          KM        ADD HYDROGRAPHS  AT CP16NB1.
1237          HC       2
              *
```

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

1238          KK  R16NC1
1239          KM        ROUTE FLOW FROM CP16NB1 TO CP16NC1.
1240          RS       1    FLOW
1241          RC    .035    .035    .035     650    .013
1242          RX       0      16      26      34      54      68      78      96
1243          RY       6       2       2       0       0       2       2       6
              *

1244          KK   SUB7N
1245          KM        RUNOFF FROM SUBBASIN 7N.
1246          BA    .031
1247          LS              77      18
1248          UK     100    .015     .15     100
1249          RK    1900     .01    .018            TRAP      50      20
              *

1250          KK    R8NC
1251          KM        ROUTE FLOW FROM CP7N TO CP8NC.
1252          RS       1    FLOW
1253          RC    .055    .045    .055     700    .025
1254          RX       0       8      13      17      22      26      31      39
1255          RY       4       2       2       0       0       2       2       4
              *

1256          KK  SUB8NA
1257          KM        RUNOFF FROM SUBBASIN 8NA.
1258          BA   .0046
1259          LS              81       0
1260          UK     100     .03     .15     100
1261          RK     450     .03    .025            TRAP      20       6
              *

1262          KK   SR8NA
1263          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NA.
1264          RS       1    STOR       0       0
1265          SV       0     .51    .816
1266          SQ       0       1      43
1267          SE    1791    1795    1796
              *

1268          KK    R8NB
1269          KM        ROUTE FLOW FROM CP8NA TO CP8NB.
1270          RS       1    FLOW
1271          RC    .025    .025    .025     300     .03
1272          RX       0      12      24      36      56      68      80      92
1273          RY       6       4       2       0       0       2       4       6
              *

1274          KK  SUB8NB
1275          KM        RUNOFF FROM SUBBASIN 8NB.
1276          BA   .0142
1277          LS              81       0
1278          UK     100     .03     .15     100
1279          RK    1150    .025    .025            TRAP      20       6
              *
```



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

1280          KK   CP8NB
1281          KM        ADD HYDROGRAPHS AT CP8NB.
1282          HC       2
              *

1283          KK   SR8NB
1284          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NB.
1285          RS       1    STOR       0       0
1286          SV       0   .0124   1.754    2.45
1287          SQ       0       2       2      72
1288          SE    1784    1785    1790    1791
              *

1289          KK    R8NC
1290          KM        ROUTE FLOW FROM CP8NB TO CP8NC.
1291          RS       1    FLOW
1292          RC    .025    .025    .025     500     .03
1293          RX       0      12      24      36      56      68      80      92
1294          RY       6       4       2       0       0       2       4       6
              *

1295          KK  SUB8NC
1296          KM        RUNOFF FROM SUBBASIN 8NC.
1297          BA   .0182
1298          LS              81       0
1299          UK     100     .03     .15     100
1300          RK     900     .03    .025            TRAP      20       6
              *

1301          KK   CP8NC
```

```
1302          KM        ADD HYDROGRAPHS AT CP8NC.
1303          HC       3
              *

1304          KK   SR8NC
1305          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NC.
1306          RS       1    STOR       0       0
1307          SV       0    .404   2.444    3.13   3.979
1308          SQ       0      10      14     151    1004
1309          SE    1771    1775    1780    1781    1782
              *

1310          KK     R9N
1311          KM        ROUTE FLOW FROM CP8N TO CP9N.
1312          RS       1    FLOW
1313          RC    .025    .025    .025    1150    .025
1314          RX       0       8      13      17      22      26      31      39
1315          RY       4       2       2       0       0       2       2       4
              *
1                                          HEC-1 INPUT                                                    PAGE 38

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

1316          KK   SUB9N
1317          KM        RUNOFF FROM SUBBASIN 9N.
1318          BA    .055
1319          LS              77      28
1320          UK     100    .008     .15     100
1321          RK    1700     .01    .018            TRAP      50      20
              *

1322          KK    CP9N
1323          KM        ADD HYDROGRAPHS AT CP9N
1324          HC       2
              *

1325          KK    R10B
1326          KM        ROUTE FLOW FROM CP9N TO CP10B.
1327          RS       1    FLOW
1328          RC     .03     .03     .03     400     .02
1329          RX       0       8      16      24      29      37      45      53
1330          RY       6       4       2       0       0       2       4       6
              *

1331          KK  SUB10B
1332          KM        RUNOFF FROM SUBBASIN 10B.
1333          BA    .028
1334          LS              77      42
1335          UK     100    .015     .15     100
1336          RK     350    .008    .018            TRAP      50      20
1337          RK     600    .008    .025            TRAP      10       4
              *

1338          KK   CP10B
1339          KM        ADD HYDROGRAPHS AT CP10B
1340          HC       2
              *

1341          KK   R11NA
1342          KM        ROUTE FLOW FROM CP10B TO CP11NA.
1343          RS       1    FLOW
1344          RC     .03     .03     .03     200     .04
1345          RX       0       8      16      24      29      37      45      53
1346          RY       6       4       2       0       0       2       4       6
              *

1347          KK  UB11NA
1348          KM        RUNOFF FROM SUBBASIN 11NA.
1349          BA   .0076
1350          LS              81       0
1351          UK     100    .025     .15     100
1352          RK     500     .03    .025            TRAP      30       6
              *
1                                          HEC-1 INPUT                                                    PAGE 39

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

1353          KK  CP11NA
1354          KM        ADD HYDROGRAPHS AT CP11NA
1355          HC       2
              *

1356          KK  SR11NA
1357          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NA.
1358          RS       1    STOR       0       0
1359          SV       0   .0462   1.425   2.480   3.109   3.856
1360          SQ       0      10      27      27      27     237
1361          SE    1734    1735    1740    1742    1743    1744
              *

1362          KK   R11NB
1363          KM        ROUTE FLOW FROM CP11NA TO CP11NB.
1364          RS       1    FLOW
```

```
1365          RC    .025    .025    .025     250     .03
1366          RX       0      12      24      36      56      68      80      92
1367          RY       6       4       2       0       0       2       4       6
              *

1368          KK  UB11NB
1369          KM        RUNOFF FROM SUBBASIN 11NB.
1370          BA   .0078
1371          LS              81       0
1372          UK     100     .04     .15     100
1373          RK     700    .025    .025            TRAP      30       6
              *

1374          KK  CP11NB
1375          KM        ADD HYDROGRAPHS AT CP11NB
1376          HC       2
              *

1377          KK  SR11NB
1378          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NB.
1379          RS       1    STOR       0       0
1380          SV       0    1.56   2.586
1381          SQ       0      27     111
1382          SE    1732    1737    1738
              *

1383          KK   R11NC
1384          KM        ROUTE FLOW FROM CP11NB TO CP11NC.
1385          RS       1    FLOW
1386          RC    .025    .025    .025     300     .03
1387          RX       0      12      24      36      56      68      80      92
1388          RY       6       4       2       0       0       2       4       6
              *
```



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

1389          KK  UB11NC
1390          KM        RUNOFF FROM SUBBASIN 11NC.
1391          BA   .0069
1392          LS              81       0
1393          UK     100     .03     .15     100
1394          RK     650    .028    .025            TRAP      20       5
              *

1395          KK  C11NC1
1396          KM        ADD HYDROGRAPHS AT CP11NC.1
1397          HC       2
              *

1398          KK  SUB10A
1399          KM        RUNOFF FROM SUBBASIN 10A.
1400          BA    .030
1401          LS              77      42
1402          UK     100    .015     .15     100
1403          RK     350    .008    .018            TRAP      50      20
1404          RK     800    .008    .025            TRAP      10       4
              *

1405          KK   R12NB
1406          KM        ROUTE FLOW FROM CP10A TO CP12NB.
1407          RS       1    FLOW
1408          RC    .025    .025    .025     400     .03
1409          RX       0      12      24      36      46      58      70      82
1410          RY       6       4       2       0       0       2       4       6
              *

1411          KK  UB12NA
1412          KM        RUNOFF FROM SUBBASIN 12NA.
1413          BA   .0153
1414          LS              81       0
1415          UK     150    .025     .15     100
1416          RK     650    .017    .025            TRAP      30       6
              *

1417          KK  SR12NA
1418          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB1NA.
1419          RS       1    STOR       0       0
1420          SV       0    2.16   3.426   5.071
1421          SQ       0       1       2     142
1422          SE    1741    1745    1746    1747
              *

1423          KK   R12NA
1424          KM        ROUTE FLOW FROM CP12NA TO CP12NB.
1425          RS       1    FLOW
1426          RC    .025    .025    .025     550    .025
1427          RX       0      12      24      36      46      58      70      82
1428          RY       6       4       2       0       0       2       4       6
              *
```



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

```
1429          KK  UB12NB
1430          KM        RUNOFF FROM SUBBASIN 12NB.
1431          BA   .0157
1432          LS              81       0
1433          UK     150    .025     .15     100
1434          RK     650    .017    .025            TRAP      30       6
              *

1435          KK  CP12NB
1436          KM        ADD 3 HYDROGRAPHS AT CP12NB
1437          HC       3
              *

1438          KK  SR12NB
1439          KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB12NB.
1440          RS       1    STOR       0       0
1441          SV       0    .922    4.24    7.53
1442          SQ       0       2       2     142
1443          SE    1741    1745    1746    1747
              *

1444          KK  R11NC2
1445          KM        ROUTE FLOW FROM CP12NA TO CP11NC.
1446          RS       1    FLOW
1447          RC    .025    .025    .025     550     .01
1448          RX       0      12      24      36      46      58      70      82
1449          RY       6       4       2       0       0       2       4       6
              *

1450          KK  CP11NC
1451          KM        ADD HYDROGRAPHS  AT CP11NC
1452          HC       2
              *

1453          KK  SR11NC
1454          KM        ROUTE FLOW THROUGH RETENTION BASIN RT11NC.  18" PIPE OUTFLOW WILL
1455          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1456          RS       1    STOR       0       0
1457          SV       0   1.665   2.303   3.062
1458          SQ       0      27     111     344
1459          SE    1730    1735    1736    1737
              *

1460          KK   R16NC
1461          KM        ROUTE FLOW FROM CP11NC TO CP16NC.
1462          RS       1    FLOW
1463          RC    .035    .035   0.035     950    .025
1464          RX       0       8      13      17      22      26      31      39
1465          RY       4       2       2       0       0       2       2       4
              *
```



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

1466          KK  UB16NC
1467          KM        RUNOFF FROM SUBBASIN 16NC.
1468          BA   .0337
1469          LS              77      42
1470          UK     100    .015     .15     100
1471          RK    1600    .015    .022            TRAP      50      20
              *

1472          KK  CP16NC
1473          KM        ADD HYDROGRAPHS  AT CP16NC
1474          HC       2
              *

1475          KK  R16NC1
1476          KM        ROUTE FLOW FROM CP16NC TO CP16NC1.
1477          RS       1    FLOW
1478          RC     .03     .03     .03     550    .013
1479          RX       0      16      26      34      44      58      68      86
1480          RY       6       2       2       0       0       2       2       6
              *

1481          KK  C16NC1
1482          KM        ADD HYDROGRAPHS  AT CP16NC1.
1483          HC       2
              *

1484          KK   R15N1
1485          KM        ROUTE FLOW FROM CP16NC1 TO CP15N1.
1486          RS       1    FLOW
1487          RC    .035    .035    .035     600    .013
1488          RX       0      16      26      34      54      68      78      96
1489          RY       6       2       2       0       0       2       2       6
              *

1490          KK     PC2
1491          KM        RUNOFF FROM SUBBASIN PC2.
1492          BA    .054
1493          LS              77      10
1494          UK     100    .015     .15     100
```

```
1495          RK    2700     .01     .03            TRAP      50       4
              *

1496          KK  CP15N1
1497          KM        ADD HYDROGRAPHS  AT CP15N1
1498          HC       2
              *

1499          KK   SRPC2
1500          KM        STORAGE ROUTE THRU DETENTION BASINS IN POWER CORRIDOR THIS IS THE TOTAL
1501          KM        FLOW REACHING THE UPSTREAM SIDE OF THE THOMPSON PEAK PARKWAY BRIDGE
1502          RS       1    STOR       0       0
1503          SV       0    1.02    2.70    4.48     5.8     6.9
1504          SQ       0       0     150     350     550     850
1505          SE    1730    1731    1732    1733    1734    1735
              *
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LINE          ID.......1.....2.......3.......4.......5.......6.......7.......8.......9......10

1506          KK  UB17NA
1507          KM        RUNOFF FROM SUBBASIN SUB17NA.
1508          BA  .00979
1509          LS              81       0
1510          UK     150    .025     .05     100
1511          RK     960   .0292    .025            TRAP      30      50
              *

1512          KK  SR17NA
1513          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NA.
1514          RS       1    STOR       0       0
1515          SV       0   .0078    .241    .523    1.00   1.735
1516          SQ       0       1       1       1    17.4     251
1517          SE  1755.2    1756    1758    1759    1760    1761
              *

1518          KK   R17NB
1519          KM        ROUTE FLOW FROM SR17NA TO CP17NB.
1520          RS       1    FLOW
1521          RC    0.03    0.03    0.03     280  0.0286
1522          RX       0      10      20      35      70      85      90     100
1523          RY    1757  1756.8  1756.6    1756    1756    1757    1758    1759
              *

1524          KK  UB17NB
1525          KM        RUNOFF FROM SUBBASIN SUB17NB.
1526          BA   .0111
1527          LS              81       0
1528          UK     150    .025     .05     100
1529          RK    1200   .0217    .025            TRAP      30      50
              *

1530          KK  CP17NB
1531          KM        ADD HYDROGRAPHS AT SUB17NB.
1532          HC       2
              *

1533          KK  SR17NB
1534          KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NB.
1535          RS       1    STOR       0       0
1536          SV       0   .0113   .1469    .635   .9795   1.509   2.254   3.243
1537          SQ       0       1       1       1       1       1    38.2     189
1538          SE  1751.5    1752    1753    1755    1756    1757    1758    1759
              *

1539          KK    R17A
1540          KM        ROUTE FLOW FROM SR17NB TO CP17A.
1541          RS       1    FLOW
1542          RC    0.03    0.03    0.03     280   0.033
1543          RX       0      15      18      20      24      27      30      35
1544          RY    1755    1754    1753    1752    1752    1753    1754    1755
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1545          KK  SUB17A
1546          KM        RUNOFF FROM SUBBASIN SUB17A.
1547          BA  .00792
1548          LS              77      34
1549          UK      75     .03     .05     100
1550          RK    1500     .02    .025            TRAP       8       4
              *

1551          KK  CP17A1
1552          KM        ADD HYDROGRAPHS AT CP17A1.
1553          HC       2
              *

1554          KK  UB17NC
1555          KM        RUNOFF FROM SUBBASIN SUB17NC.
1556          BA  .00559
1557          LS              77      12
```

```
1558          UK      75     .03     .05     100
1559          RK     910   .0187    .025            TRAP       8       4
              *

1560          KK   CP17A
1561          KM        ADD ALL HYDROGRAPHS AT CP17A.
1562          HC       2
              *

1563          KK    R15N
1564          KM        ROUTE FLOW FROM CP17A TO CP15N.
1565          RS       1    FLOW
1566          RC    .035    .035    .035    1950    .025
1567          RX       0       8      13      17      22      26      31      39
1568          RY       4       2       2       0       0       2       2       4
              *

1569          KK  SUB15N
1570          KM        RUNOFF FROM SUBBASIN 15N.
1571          BA   .0391
1572          LS              77      68
1573          UK     100     .01     .15     100
1574          RK     400    .008    .018            TRAP      50      20
1575          RK    1700    .015    .025            TRAP      10       4
              *

1576          KK   CP15N
1577          KM        ADD HYDROGRAPHS  AT CP15N
1578          HC       2
              *

1579          KK   R15N2
1580          KM        ROUTE FLOW FROM CP15N TO CP15N1.
1581          RS       1    FLOW
1582          RC     .02     .02     .02     700    .013
1583          RX       0       8      13      17      22      26      31      39
1584          RY       6       2       2       0       0       2       2       6
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1585          KK  CP15N2
1586          KM        ADD HYDROGRAPHS  AT CP15N1
1587          KM        THIS IS THE INTERIM OUTFLOW DISCHARGE TO NATURAL WASH.
1588          HC       2  2.0449
              *

1589          KK   R15N2
1590          KM        ROUTE 15N2 IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CP15N2 TO THE
1591          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1592          KM
1593          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1594          RS       1    FLOW      -1
1595          RC    .035    .035    .035    2200    .013
1596          RX       0      16      26      34      64      78      88     106
1597          RY       6       2       2       0       0       2       2       6
              *

1598          KK    DPC3
1599          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1600          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1601          KM
1602          KM        RETRIEVE DIVERTED FLOW
1603          DR   BPC3T
              *

1604          KK   CPC3A
1605          KM        COMBINE CPC3A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE AT THE
1606          KM        POWER LINE CHANNEL CROSSING AT HAYDEN RD.
1607          KM
1608          KM        COMBINE ROUTED HYDROGRAPH FROM CP15N2 WITH HYDROGRAPH FROM CPC3
1609          HC       2  2.2284
              *

1610          KK   RPC3A
1611          KM        ROUTE PC3A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC3A VIA
1612          KM        THE POWER LINE CHANNEL.
1613          KM
1614          KM        ROUTE FLOW FROM CP15N2 TO CPC3A.
1615          RS       1    FLOW      -1
1616          RC    .035    .035    .035    1100    .013
1617          RX       0      16      26      34      64      78      88     106
1618          RY       6       2       2       0       0       2       2       6
              *

1619          KK    DPC4
1620          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1621          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1622          KM
1623          KM        RETRIEVE DIVERTED FLOW
1624          DR   BPC4T
              *
```

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

1625          KK   CPC4A
1626          KM        COMBINE CPC4A IS ADDED BY GVSCE TO ESTIMATE THE TOTAL DISCHARGE IN THE
1627          KM        POWER LINE CHANNEL
1628          KM
1629          KM        COMBINE ROUTED HYDROGRAPH FROM CPC3A WITH HYDROGRAPH FROM CPC4
1630          HC       2  3.0327
              *

1631          KK   RPC4A
1632          KM        ROUTE PC4A IS ADDED BY GVSCE TO ROUTE THE HYDROGRAPH FROM CPC4A TO THE
1633          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI RD.
1634          KM
1635          KM        ROUTE FLOW FROM CPC4A TO CPC5.
1636          RS       1    FLOW      -1
1637          RC    .035    .035    .035    1900    .013
1638          RX       0      16      26      34      64      78      88     106
1639          RY       6       2       2       0       0       2       2       6
              *

1640          KK  DPC4AT
1641          KM        DIVERT PC4A IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1642          KM        FREEWAY EAST-BASIN VIAL THE POWER LINE CHANNEL.
1643          KM
1644          KM        DIVERT 100% OF FLOW
1645          DT  BPC4AT
1646          DI       0   10000
1647          DQ       0   10000
              *

1648          KK  SUB1-2
1649          KM        RUNOFF FROM SUB 1 AND 2, SOUTH COURSE MODEL
1650          BA   .0558
1651          LS              77      68
1652          UK     200    .010     .15     100
1653          RK    1370    .027    .015            TRAP      50      20
              *

1654          KK  GCRB18
1655          KM        RUNOFF FROM GOLF COURSE CONTRIBUTING TO RETENTION BASIN AT HOLE NO. 18
1656          KM        AND HOLE NO. 10, SOUTH COURSE
1657          BA    .012
1658          LS              81       0
1659          UK     200    .025     .15     100
1660          RK     300    .016    .025            TRAP      10       4
              *

1661          KK  CPRET1
1662          KM        COMBINE HYDROGRAPHS AT RETENTION BASINS ON HOLE 18 & 10
1663          HC       2
              *
```



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

1664          KK   SR18S
1665          KM        STORAGE ROUTE THRU RETENTION BASIN AT HOLE 18, SOUTH COURSE
1666          RS       1    STOR       0       0
1667          SV       0  1.7635  5.7722  12.174  21.337  28.849  30.151      32
1668          SE    1725    1730    1735    1740    1745    1748    1749    1750
1669          SQ       0       0       0       0       0      42     386     900
              *

1670          KK   SUB5S
1671          KM        RUNOFF FROM SUB 5S
1672          BA   .0263
1673          LS              77      31
1674          UK     100    .010     .15     100
1675          RK    1280    .007    .015            TRAP      50      20
              *

1676          KK  GC1216
1677          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 12, 16, AND 17
1678          BA   .0365
1679          LS              81       0
1680          UK     200    .025     .15     100
1681          RK    2200    .024    .025            TRAP      10       4
              *

1682          KK  GC1415
1683          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 13, 14, 15 AND RETENTION
1684          BA    .045
1685          LS              81       0
1686          UK     200    .025     .15     100
1687          RK    1300    .022    .025            TRAP      10       4
              *

1688          KK   SUB6S
1689          KM        RUNOFF FROM SUB BASIN 6, SOUTH COURSE
1690          BA    .021
1691          LS              77      42
```

```
1692          UK     100    .010     .15     100
1693          RK    2150    .013    .025            TRAP      50      20
              *

1694          KK   SUB7S
1695          KM        RUNOFF FROM SUB BASIN 7, SOUTH COURSE
1696          BA    .027
1697          LS              77      42
1698          UK     100    .010     .15     100
1699          RK    2080    .023    .025            TRAP      50      20
              *

1700          KK  CPRET2
1701          KM        COMBINE HYDROGRAPHS AT RETENTION BASIN 2, SOUTH COURSE
1702          HC       5
              *
1                                          HEC-1 INPUT                                                PAGE 48

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

1703          KK  SRRET2
1704          KM        STORAGE THRU RETENTION BASIN NO. 2, SOUTH COURSE
1705          RS       1    STOR       0       0
1706          SV       0    .617   3.474   9.858  20.063  35.353  52.685  57.749      62
1707          SE    1670    1675    1680    1685    1690    1695    1699    1700    1701
1708          SQ       0       0       0       0       0       0      32     386     594
              *
              *       NO FLOW RELEASED FROM RETENTION BASIN
              *

1709          KK   CLEAR
1710          KM        THIS OPERATION IS ADDED BY GVSCE
1711          KM
1712          KM        CLEAR HYDROGRAPHS FROM THE STACK
1713          HC       2
              *

1714          KK   SUB8S
1715          KM        RUNOFF FROM SUB BASIN 8, SOUTH COURSE
1716          BA   .0256
1717          LS              77      42
1718          UK     100    .010     .15     100
1719          RK    1600    .015    .025            TRAP      50      20
              *

1720          KK   RGC36
1721          KM        ROUTE SUB8S TO CPGC36
1722          RS       1    FLOW
1723          RC    .055    .045    .055     850     .02
1724          RX       0      16      26      30      40      44      54      70
1725          RY       6       2       2       0       0       2       2       6
              *

1726          KK    GC36
1727          KM        RUNOFF FROM SOUTH COURSE HOLES 3, 6, AND NORTH HALF OF HOLE 4.
1728          BA   .0406
1729          LS              81       0
1730          UK     200    .025     .15     100
1731          RK    2350    .015    .035            TRAP      10       4
              *

1732          KK  C1GC36
1733          KM        COMBINE SUBS 8 AND GC36
1734          HC       2
              *

1735          KK   SUB9S
1736          KM        RUNOFF FROM SUB BASIN 9, SOUTH COURSE
1737          BA    .021
1738          LS              77      53
1739          UK     100    .010     .15     100
1740          RK    1100    .013    .025            TRAP      50      20
              *
1                                          HEC-1 INPUT                                                PAGE 49

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

1741          KK     R9S
1742          KM        ROUTE SUB9S TO CPGC36
1743          RS       1    FLOW
1744          RC    .035    .035    .035     500     .02
1745          RX       0       8      12      16      18      22      26      30
1746          RY       6       4       3       2       2       3       4       6
              *

1747          KK  CPGC36
1748          KM        COMBINE SUBS 8 AND 9 SOUTH AND GC36
1749          HC       2
              *

1750          KK  SRGC36
1751          KM        STORAGE THRU DETENTION BASIN ON GC36
1752          RS       1    STOR       0       0
```

```
1753          SV       0    0.85     1.0
1754          SE    1664    1668    1669
1755          SQ       0      20     205
              *

1756          KK   SUB7A
1757          KM        RUNOFF FROM SUB7A, SOUTH COURSE EAST SIDE ADJACENT TO PIMA ROAD
1758          BA   .0092
1759          LS              77      42
1760          UK     100    .025     .15     100
1761          RK     950    .015    .025            TRAP      50      20
              *

1762          KK    SR7A
1763          KM        STORAGE THRU DETENTION BASIN ON SUB7A
1764          RS       1    STOR       0       0
1765          SV       0     .68      .8
1766          SE    1700    1703    1704
1767          SQ       0      10     150
              *

1768          KK    R10S
1769          KM        ROUTE FLOW FROM CP7A TO CP10S
1770          RS       1    FLOW
1771          RC    .035    .035    .035    1400    .015
1772          RX       0       8      12      16      18      22      26      30
1773          RY       6       4       3       2       2       3       4       6
              *

1774          KK  SUB10S
1775          KM        RUNOFF FROM SUB BASIN 10, SOUTH COURSE
1776          BA   .0248
1777          LS              77      53
1778          UK     100    .010     .15     100
1779          RK    1150    .020    .025            TRAP      50      20
              *
1                                        HEC-1 INPUT                                                    PAGE 50

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

1780          KK   CP10S
1781          KM        COMBINE HYDROGRAPHS AT CP10 SOUTH COURSE
1782          HC       2
              *

1783          KK  SUB11S
1784          KM        RUNOFF FROM SUB11, SOUTH COURSE
1785          BA   .0234
1786          LS              77      68
1787          UK     100    .015    .018     100
1788          RK    1050    .015    .025            TRAP     100      20
              *

1789          KK    R11S
1790          KM        ROUTE 11S IS ADDED BY GVSCE TO ROUTE THE RUNOFF FROM SUB11S TO THE
1791          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI DR ALONG HUALAPAI DR.
1792          KM
1793          KM        ROUTE FLOW FROM SUB11S TO CPC5.
1794          RS       1    FLOW      -1
1795          RC    .035    .035    .035     900    .015
1796          RX       0       8      12      16      18      22      26      30
1797          RY       6       4       3       2       2       3       4       6
              *

1798          KK   C10SA
1799          KM        COMBINE 10SA IS ADDED BY GVSCE
1800          KM
1801          KM        COMBINE ROUTED HYDROGRAPH FROM 11S WITH HYDROGRAPH FROM CP10S
1802          HC       2
              *

1803          KK   R10SA
1804          KM        ROUTE 10SA IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE PIMA
1805          KM        FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1806          KM
1807          KM        ROUTE FLOW FROM C10SAS TO CPC5.
1808          RS       1    FLOW      -1
1809          RC    .035    .035    .035     900    .015
1810          RX       0       8      12      16      18      22      26      30
1811          RY       6       4       3       2       2       3       4       6
              *

1812          KK    GC45
1813          KM        RUNOFF FROM SOUTH COURSE HOLES 4 AND 5
1814          BA   .0127
1815          LS              81       0
1816          UK     200    .015    .025     100
1817          RK     550    .015    .035            TRAP      10       4
              *
1                                        HEC-1 INPUT                                                    PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
1818          KK   CGC45
1819          KM        COMBINE CGC45 IS ADDED BY GVSCE
1820          KM
1821          KM        COMBINE ROUTED HYDROGRAPH FROM 10SA WITH RUNOFF FROM GC45
1822          HC       2
              *

1823          KK     PC5
1824          KM        PC5 IS A SUBBASIN ADDED BY GVSCE TO ESTIMATE THE SURFACE RUNOFF FROM
1825          KM        THE POWER LINE CORRIDOR WHICH ENTERS THE POWER LINE CHANNEL
1826          KM
1827          KM        RUNOFF FROM SUBBASIN PC5.
1828          BA  0.0375
1829          LS              77       0
1830          UK    300     .015     .15     100
1831          RK   1900      .01     .03            TRAP      30       4
              *

1832          KK   DPC4A
1833          KM        THIS OPERATION IS ADDED BY GVSCE IN ORDER TO ROUTE RUNOFF TO THE
1834          KM        PIMA FREEWAY EAST-BASIN VIA THE POWER LINE CHANNEL.
1835          KM
1836          KM        RETRIEVE DIVERTED FLOW
1837          DR  BPC4AT
              *

1838          KK    CPC5
1839          KM        COMBINE PC5 IS ADDED BY GVSCE TO ESTIMATE THE TOTAL FLOW IN THE POWER
1840          KM        LINE CHANNEL AT THE HUALAPAI CROSSING.  THE COMBINED AREA DOES NOT
1841          KM        INCLUDE 0.2236 SQUARE MILES OF AREA DRAINING TO RETENTION BASINS.
1842          KM
1843          KM        COMBINE ROUTED HYDROGRAPH FROM C10SA AND CPC4A WITH HYDROGRAPHS FROM
1844          KM        CGC45, SRGC36 AND PC5
1845          HC       5  3.0039
              *
              *     *******************  END GRAYHAWK WATERSHED  ********************
              *

1846          KK     RC5
1847          KM       ROUTE CPC5 THROUGH SUBBASIN CN5C TO PIMA FREEWAY EAST-BASIN
1848          RS       1    FLOW      -1
1849          RC    .035    .035    .035    2000    .013
1850          RX       0      16      26      34      64      78      88     106
1851          RY       6       2       2       0       0       2       2       6
              *

1852          KK   SCN5D
1853          KM     RUNOFF FROM SUBBASIN CN5D
1854          BA  0.0499
1855          LS              74       0
1856          UK    100   0.025    0.13     100
1857          RK   3100   0.017    0.04            TRAP       0      15
              *
1                                          HEC-1 INPUT                                                PAGE 52

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

1858          KK    CN5D
1859          KM        COMBINE ROUTED HYDROGRAPH FROM CPC5 W/RUNOFF FROM SCN5D
1860          HC       2
              *

1861          KK     D52
1862          KM     BRING BACK DIVERTED HYDROGRAPH FROM R52
1863          DR    B52T
              *

1864          KK    S53A
1865          KM     RUNOFF FROM SUBBASIN 53A
1866          BA  0.1794
1867          LS              74      11
1868          UK    300   0.022    0.13     100
1869          RK   1475   0.026   0.045  0.0111    TRAP       3       5
1870          RK   1750   0.021    0.04            TRAP      25       5
              *

1871          KK     C53
1872          KM     COMBINE ROUTED HYDROGRAPH FROM FROM C52 WITH RUNOFF FROM SUBBASIN 53A
1873          HC       2  3.0819
              *
              *    R53
              *   ****  TOO SHORT TO ROUTE  ****
              *

1874          KK   S53A1
1875          KM     RUNOFF FROM SUBBASIN 53A1
1876          BA  0.3376
1877          LS              74      12              74      30
1878          UK    300   0.022    0.13      70
1879          UK    150   0.027    0.13      30
1880          RK   1250   0.023   0.045  0.0087    TRAP       4       5
1881          RK   5050   0.017    0.04            TRAP      35       5
              *
```

```
1882          KK    C53A
1883          KM     COMBINE ROUTED HYDROGRAPH FROM C53 WITH RUNOFF FROM SUBBASSIN 53A1
1884          HC       2
              *

1885          KK   SCN6B
1886          KM     RUNOFF FROM SUBBASIN CN6B (WATER CAMPUS)
1887          KM      TOTAL AREA = 0.0542 sm, 0.0022 sm OF THAT IS NON-CONTRIBUTING
1888          BA  0.0520
1889          LS              74       80              74       0
1890          UK     150    0.01     0.15      70
1891          UK     100   0.025     0.13      30
1892          RK     720    0.02     0.03  0.0084    TRAP       5      10
1893          RK     700    0.01    0.045  0.0050    TRAP       0      10
1894          RK     440   0.009    0.035            TRAP       6       3
              *
1                                          HEC-1 INPUT                                                    PAGE 53

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

1895          KK   SCN6D
1896          KM     RUNOFF FROM SUBBASIN CN6D
1897          KM      TOTAL AREA = 0.0398 sm, 0.0029 sm OF THAT IS NON-CONTRIBUTING
1898          BA  0.0369
1899          LS              74        3
1900          UK     100   0.025     0.13     100
1901          RK    1000   0.017     0.04            TRAP       0      15
              *

1902          KK    CP6D
1903          KM     COMBINE HYDROGRAPHS FROM C53A W/RUNOFF FROM SCN6D
1904          HC       3
              *

1905          KK   SCN6C
1906          KM     RUNOFF FROM SUBBASIN CN6C (CAP TREATMENT PLANT AND WATER CAMPUS)
1907          KM      TOTAL AREA = 0.1526 sm, 0.0138 sm OF THAT IS NON-CONTRIBUTING
1908          BA  0.1388
1909          LS              74       80              74       0
1910          UK     150    0.01     0.15      50
1911          UK     100   0.025     0.13      50
1912          RK    1500    0.01     0.03  0.0123    TRAP       5      10
1913          RK     700   0.017     0.04            TRAP       0      15
              *

1914          KK    CP6C
1915          KM        COMBINE HYDROGRAPH FROM CP6D W/RUNOFF FROM SCN6C
1916          HC       2
              *

1917          KK    CP5D
1918          KM        COMBINE HYDROGRAPHS FROM CP6C AND CP5D
1919          HC       2
              *

1920          KK   SCN5C
1921          KM     RUNOFF FROM SUBBASIN CN5C
1922          BA  0.1904
1923          LS              74        0
1924          UK     150   0.020     0.13     100
1925          RK    3700  0.0176     0.04            TRAP       0      15
              *

1926          KK   SCN6E
1927          KM     RUNOFF FROM SUBBASIN CN6E
1928          BA  0.0427
1929          LS              74        5
1930          UK      50    0.01     0.13     100
1931          RK    3200   0.002    0.025            TRAP       0      50
              *
1                                          HEC-1 INPUT                                                    PAGE 54

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

1932          KK  EAST-I
1933          KM     COMBINE HYDROGRAPH FROM CP5D WITH W/RUNOFF FROM SCN5C AND SCN6E
1934          HC       3
              *

1935          KK  EAST-O
1936          KM     PIMA FREEWAY BASIN EAST LOCATED NORTH AND EAST OF HAYDEN ROAD T.I.
1937          KM     (2) 96" OUTLET CONDUIT
1938          KM        STAGE-DISCHARGE RATING CURVE REFLECTS 50% CLOGGING OF THE TRASHRACK.
1939          KM        9 ACRE-FEET OF STORAGE FOR SEDIMENTAION
1940          KM
1941          RS       1    STOR      -1       0
1942          SV       0    0.35    1.11    3.38   12.19   24.00   36.81   43.59   50.74   58.38
1943          SV   66.49   74.88   83.50   92.36  101.45  110.78  120.36  130.25  140.48  145.06
1944          SQ       0      66     127     281     515     791    1047    1161    1263    1355
1945          SQ    1442    1522    1598    1671    1740    1805    1871    1932    1991    2020
1946          SE  1589.9    1591    1592    1594    1596    1598    1600    1601    1602    1603
1947          SE    1604    1605    1606    1607    1608    1609    1610    1611    1612  1612.5
1948          ST  1612.5    3500     2.8     1.5
```

```
                    *
        1949        ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   25      S51.1
               V
               V
   34     DVDB-O
               .
               .
   50          .-------> B51.1T
   48     D51.1T
               .
               .
   53          .       52D4
               .          V
               .          V
   59          .      52D4R
               .          .
               .          .
   62          .          .      52D4B
               .          .          .
               .          .          .
   68          .     52D5C1............
               .          .
               .          .
   71          .          .      52D5A
               .          .          V
               .          .          V
   77          .          .     52D5AR
               .          .          .
               .          .          .
   80          .     52D5C2............
               .          V
               .          V
   83          .      52D5R
               .          .
               .          .
   86          .          .       52C3
               .          .          V
               .          .          V
   92          .          .      52C3R
               .          .          .
               .          .          .
   95          .          .          .      52C3B
               .          .          .          .
               .          .          .          .
  101          .          .     2C3BC1............
               .          .          .
               .          .          .
  104          .     2C3BC2............
               .          V
               .          V
  107          .     52C3BR
               .          .
               .          .
  110          .          .        51C
               .          .          .
               .          .          .
  120          .          .          .-------> 51C1DV
  118          .          .      51C1D
               .          .          V
               .          .          V
  123          .          .      51C1R
               .          .          .
               .          .          .
  126          .          .          .       52C1
               .          .          .          .
               .          .          .          .
  132          .          .      52C1C............
               .          .          V
               .          .          V
  135          .          .      52C1R
               .          .          .
               .          .          .
  138          .          .          .      52C2A
               .          .          .          .
               .          .          .          .
  144          .          .     52C2AC............
               .          .          .
               .          .          .
  147          .          .          .      52C2B
               .          .          .          .
               .          .          .          .
  153          .          .     52C2BC............
               .          .          V
               .          .          V
  156          .          .     52C2BR
               .          .          .
               .          .          .
```

```
159          .          .          .      52C2C
             .          .          .          .
             .          .          .          .
165          .          .     52C2CC...........
             .          .          V
             .          .          V
168          .          .      52C2R
             .          .          .
             .          .          .
171          .          .          .       52C4
             .          .          .          .
             .          .          .          .
177          .          .     52C4C1...........
             .          .          .
             .          .          .
180          .     52C4C2...........
             .          V
             .          V
183          .      52C4R
             .          .
             .          .
186          .          .      52C13
             .          .          .
             .          .          .
194          .          .          .-------->   STORM
192          .          .     2C13DV
             .          .          .
             .          .          .
197          .          .          .      52C15
             .          .          .          .
             .          .          .          .
203          .          .     2C15C1...........
             .          .          .
             .          .          .
206          .     2C15C2...........
             .          V
             .          V
209          .     52C15R
             .          .
             .          .
212          .          .     52C14A
             .          .          .
             .          .          .
218          .     2C14AC...........
             .          V
             .          V
221          .     2C14AR
             .          .
             .          .
226          .          .          .<-------  51C1DV
224          .          .     51C1DV
             .          .          .
             .          .          .
229          .          .          .-------->  51C2DV
227          .          .      51C2D
             .          .          V
             .          .          V
232          .          .      51C2R
             .          .          .
             .          .          .
235          .          .          .       52C5
             .          .          .          .
             .          .          .          .
241          .          .      52C5C...........
             .          .          V
             .          .          V
244          .          .      52C5R
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             .          .          .
247          .          .          .       52C6
             .          .          .          .
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253          .          .      52C6C...........
             .          .          V
             .          .          V
256          .          .      52C6R
             .          .          .
             .          .          .
261          .          .          .          .<-------  51C2DV
259          .          .          .     51C2DV
             .          .          .          V
             .          .          .          V
262          .          .          .      51C3R
             .          .          .          .
             .          .          .          .
265          .          .          .          .         51B
             .          .          .          .          .
             .          .          .          .          .
275          .          .          .          .          .-------->  51B1DV
273          .          .          .          .      51B1D
             .          .          .          .          V
             .          .          .          .          V
278          .          .          .          .      51B1R
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281          .          .          .          .          .       52C7
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287          .          .          .     52C7C.......................
             .          .          .         V
             .          .          .         V
290          .          .          .     52C7R
             .          .          .          .
             .          .          .          .
295          .          .          .          .          .<-------  51B1DV
293          .          .          .          .    51B1DV
             .          .          .          .          .
             .          .          .          .          .
298          .          .          .          .          .------->  51B2DV
296          .          .          .          .     51B2D
             .          .          .          .         V
             .          .          .          .         V
301          .          .          .          .     51B2R
             .          .          .          .          .
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304          .          .          .          .          .       52C8
             .          .          .          .          .          .
             .          .          .          .          .          .
310          .          .          .          .     52C8C............
             .          .          .          .         V
             .          .          .          .         V
313          .          .          .          .     52C8R
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             .          .          .          .          .
316          .          .          .     52C9C1............
             .          .          .         V
             .          .          .         V
319          .          .          .     52C9R1
             .          .          .          .
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322          .          .          .          .      52C9
             .          .          .          .          .
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328          .          .          .     52C9C2............
             .          .          .         V
             .          .          .         V
331          .          .          .     52C9R2
             .          .          .          .
             .          .          .          .
334          .          .     2C10C1............
             .          .         V
             .          .         V
337          .          .     2C10R1
             .          .          .
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340          .          .          .      52C10
             .          .          .          .
             .          .          .          .
346          .          .     2C10C2............
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349          .          .          .      52C11
             .          .          .         V
             .          .          .         V
355          .          .          .     2C11R1
             .          .          .          .
             .          .          .          .
360          .          .          .          .          .<-------   STORM
358          .          .          .          .    52C13D
             .          .          .          .          .
             .          .          .          .          .
361          .          .          .     52C11C............
             .          .          .         V
             .          .          .         V
364          .          .          .     2C11CR
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             .          .          .          .
367          .          .     2C11C2............
             .          .         V
             .          .         V
370          .          .     2C11R2
             .          .          .
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373          .          .          .      52C12
             .          .          .          .
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379          .          .     52C12C............
             .          .         V
             .          .         V
382          .          .     52C12R
             .          .          .
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385          .          .          .     52C14B
             .          .          .          .
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391          .          .     C14BC1............
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394          .     C14BC2............
             .          V
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                 .          V
397              .     52C14R
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402              .          .          .<-------  51B2DV
400              .          .     51B2DV
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                 .          .          .
405              .          .          .------->  51B3DV
403              .          .      51B3D
                 .          .          V
                 .          .          V
408              .          .      51B3R
                 .          .          .
                 .          .          .
411              .          .          .        52B1
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417              .          .      52B1C............
                 .          .          V
                 .          .          V
420              .          .      52B1R
                 .          .          .
                 .          .          .
425              .          .          .           .<-------  51B3DV
423              .          .          .     51B3DV
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                 .          .          .           .
428              .          .          .           .------->  51B4DV
426              .          .          .      51B4D
                 .          .          .          V
                 .          .          .          V
431              .          .          .     51B4R1
                 .          .          .           .
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434              .          .     52B2C1............
                 .          .          V
                 .          .          V
437              .          .     52B2R1
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440              .          .          .        52B2
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446              .          .     52B2C2............
                 .          .          V
                 .          .          V
449              .          .     52B2R2
                 .          .          V
                 .          .          V
452              .          .     52B3R1
                 .          .          .
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455              .          .          .        52B3
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461              .          .     52B3C2............
                 .          .          V
                 .          .          V
464              .          .     52B3R2
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467              .          .          .        52B4
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473              .          .      52B4C............
                 .          .          V
                 .          .          V
476              .          .      52B4R
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479              .          .          .        52B5
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485              .          .     52B5C1............
                 .          .          .
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488              .     52B5C2............
                 .          V
                 .          V
491              .      52B5R
                 .          .
                 .          .
496              .          .          .<-------  51B4DV
494              .          .     51B4DV
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                 .          .          .
499              .          .          .------->  51B5DV
497              .          .      51B5D
                 .          .          V
                 .          .          V
502              .          .      51B5R
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507              .          .          .           .<-------  51B5DV
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505          .          .          .      51B5DV
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510          .          .          .          .-------> 51B6DV
508          .          .          .      51B6D
             .          .          .          V
             .          .          .          V
513          .          .          .      51B6R
             .          .          .          .
             .          .          .          .
518          .          .          .          .          .<-------- 51B6DV
516          .          .          .          .     51B6DV
             .          .          .          .          .
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521          .          .          .          .          .-------> 51B7DV
519          .          .          .          .      51B7D
             .          .          .          .          V
             .          .          .          .          V
524          .          .          .          .     51B7R1
             .          .          .          .          .
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527          .          .      51B7C.......................
             .          .          V
             .          .          V
530          .          .     51B7R2
             .          .          .
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533          .          .          .       52B6
             .          .          .          .
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539          .          .      52B6C............
             .          .          V
             .          .          V
542          .          .      52B6R
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545          .          .          .       52B7
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551          .          .     52B7C1............
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554          .     52B7C2............
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557          .          .       52A2
             .          .          .
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563          .     52A2C2............
             .          .
             .          .
568          .          .          .<-------- 51B7DV
566          .          .     51B7DV
             .          .          V
             .          .          V
569          .          .      51B8R
             .          .          .
             .          .          .
572          .          .          .       52A1
             .          .          .          .
             .          .          .          .
578          .          .      52A1C............
             .          .          .
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583          .          .          .          .<-------- B51.1T
581          .          .          .      D51.1
             .          .          .          .
             .          .          .          .
584          .          .       C52A............
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             .          .          .
588          .        C52............
             .          V
             .          V
592          .        R52
             .          .
             .          .
599          .          .-------> B52T
597          .       D52T
             .          .
             .          .
602     CLEAR............
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605          .         1B
             .          V
             .          V
612          .      37AE1
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619          .          .      SUB5N
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626          .       CP5N............
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                 .          V
629              .      RET5N
                 .          V
                 .          V
636              .      R6N.1
                 .          .
                 .          .
644              .          .      SUB6B
                 .          .          V
                 .          .          V
650              .          .       SR6B
                 .          .          .
                 .          .          .
656              .      CP6.1............
                 .          .
                 .          .
659              .          .      SUB1N
                 .          .          V
                 .          .          V
665              .          .       R2NA
                 .          .          .
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671              .          .          .      SUB2NA
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677              .          .      CP2NA............
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                 .          .          V
680              .          .      SR2NA
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686              .          .       R2NB
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692              .          .          .      SUB2NB
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698              .          .      CP2NB............
                 .          .          V
                 .          .          V
701              .          .      SR2NB
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                 .          .          V
707              .          .      RCP4N
                 .          .          .
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713              .          .          .      SUB6N
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                 .          .          .          V
719              .          .          .      RET6N
                 .          .          .          V
                 .          .          .          V
725              .          .          .      RCP4N1
                 .          .          .          .
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731              .          .     CP4N.1............
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734              .          .          .      SUB3N
                 .          .          .          V
                 .          .          .          V
740              .          .          .      RET3N
                 .          .          .          V
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747              .          .          .        R4N
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753              .          .     CP4N.2............
                 .          .          .
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756              .          .          .      SUB4N
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762              .          .       CP4N............
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                 .          .          V
765              .          .        R6N
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771              .          .          .      SUB6A
                 .          .          .          .
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777              .          .      CP6.2............
                 .          .          .
                 .          .          .
780              .      CP6N............
                 .          V
                 .          V
783              .      RCP6N
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                 .          .
789              .          .      SUB3C
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795              .      CP3C............
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                .          V
                .          V
798             .        R3C
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                .          .
806             .          .      GC1018
                .          .          .
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812             .          .          .       GC1-9
                .          .          .          .
                .          .          .          .
818             .          .          .          .       SUB3S
                .          .          .          .          .
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824             .       CP3S.................................
                .          V
                .          V
827             .       RT3S
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833             .          .      SUB4S
                .          .          V
                .          .          V
839             .          .       RT4S
                .          .          .
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845             .          .          .       GC2-8
                .          .          .          .
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851             .     1PGC28.......................
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                .          .
854             .          .      SUB3D3
                .          .          .
                .          .          .
860             .     CPGC28............
                .          V
                .          V
863             .     SRGC28
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                .          V
869             .       RT7S
                .          .
                .          .
875             .          .         GC7
                .          .          .
                .          .          .
881             .       CP7S............
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                .          .
889             .          .-------->    B7ST
884             .       D7ST
                .          .
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892       CLEAR............
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895             .     SUB3D1
                .          V
                .          V
900             .      RD1B1
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906             .          .      SUB3B1
                .          .          .
                .          .          .
911             .      CP3B1............
                .          V
                .          V
914             .      RB13F
                .          .
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920             .          .       SUB3F
                .          .          .
                .          .          .
926             .       CP3F............
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                .          .
929             .          .      SUB3B2
                .          .          V
                .          .          V
934             .          .      RB2E1
                .          .          V
                .          .          V
940             .          .      RB2E2
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946             .          .          .      SUB3E1
                .          .          .          .
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951             .          .      1CPE31............
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954             .          .          .      SUB3D2
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                                                  V
 959                                           RD2E2
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 965                                                .      SUB3E2
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 970                                           CP3E2............
                                                  .
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 973                                                .         PC3
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 982                 CPC3.................................
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 994                     .-------->   BPC3T
 989               DPC3T
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 997                     .      SUB3E3
                         .           .
                         .           .
1002                     .           .         PC4
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1016                     .           .           .       .<-------    B7ST
1011                     .           .           .         D7S
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1017                     .        CPC4........................
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1028                     .           .-------->   BPC4T
1023                     .       DPC4T
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1031            CLEAR.......................
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1034                     .        1A1
                         .          V
                         .          V
1041                     .       R1A1
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1047                     .          .         1A2
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1054                     .        C1A............
                         .          V
                         .          V
1057                     .       R14R
                         .          V
                         .          V
1064                     .     RET141
                         .          V
                         .          V
1071                     .      R14.1
                         .          .
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1078                     .      SUB13N
                         .          V
                         .          V
1084                     .       R14.1
                         .          .
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1090                     .           .      SUB14N
                         .           .           .
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1096                     .       CP14........................
                         .          V
                         .          V
1099                     .      RET14
                         .          V
                         .          V
1106                     .      R18.1
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1112                     .      SUB20N
                         .          V
                         .          V
1118                     .        R19
                         .          .
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1124                     .           .      SUB19N
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1130                     .       CP19N............
                         .          V
                         .          V
1133                     .       R18NC
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1139                     .           .     UB18NC
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1145            .     CP18NC.......................
                .          V
                .          V
1148            .       RPC1
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1154            .          .      UB18NA
                .          .          V
                .          .          V
1160            .          .       1RPC1
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                .          .          .
1166            .          .          .      UB18NB
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                .          .          .          V
1172            .          .          .       2RPC1
                .          .          .          .
                .          .          .          .
1178            .          .          .          .          PC1
                .          .          .          .            .
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1184            .          .       1CPC1.......................
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                .          .          V
1187            .          .      SRPC1
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1193            .       CPC1............
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1196            .     R16NA1
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1202            .          .      UB16NA
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1208            .          .      R16NA1
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1214            .     C16NA1............
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1217            .     R16NB1
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1223            .          .      UB16NB
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                .          .          V
1229            .          .      R16NB1
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1235            .     C16NB1............
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1238            .     R16NC1
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1244            .          .      SUB7N
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1250            .          .       R8NC
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1256            .          .          .      SUB8NA
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1262            .          .          .      SR8NA
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                .          .          .          V
1268            .          .          .       R8NB
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1274            .          .          .          .      SUB8NB
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1280            .          .          .      CP8NB............
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1283            .          .          .      SR8NB
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1289            .          .          .       R8NC
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1295            .          .          .          .      SUB8NC
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1301            .          .      CP8NC.......................
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1304            .          .      SR8NC
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                .          .          V
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1310          .          .        R9N
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1316          .          .         .      SUB9N
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1322          .          .      CP9N............
              .          .         V
              .          .         V
1325          .          .      R10B
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1331          .          .         .     SUB10B
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1338          .          .     CP10B............
              .          .         V
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1341          .          .     R11NA
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1347          .          .         .     UB11NA
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1353          .          .    CP11NA............
              .          .         V
              .          .         V
1356          .          .    SR11NA
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              .          .         V
1362          .          .     R11NB
              .          .         .
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1368          .          .         .     UB11NB
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1374          .          .    CP11NB............
              .          .         V
              .          .         V
1377          .          .    SR11NB
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              .          .         V
1383          .          .     R11NC
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1389          .          .         .     UB11NC
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              .          .         .          .
1395          .          .    C11NC1............
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1398          .          .         .     SUB10A
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1405          .          .         .      R12NB
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1411          .          .         .          .     UB12NA
              .          .         .          .          V
              .          .         .          .          V
1417          .          .         .          .     SR12NA
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              .          .         .          .          V
1423          .          .         .          .      R12NA
              .          .         .          .          .
              .          .         .          .          .
1429          .          .         .          .          .      UB12NB
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1435          .          .         .     CP12NB.......................
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              .          .         .          V
1438          .          .         .     SR12NB
              .          .         .          V
              .          .         .          V
1444          .          .         .     R11NC2
              .          .         .          .
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1450          .          .    CP11NC............
              .          .         V
              .          .         V
1453          .          .    SR11NC
              .          .         V
              .          .         V
1460          .          .     R16NC
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1466          .          .         .     UB16NC
              .          .         .          .
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1472          .          .    CP16NC............
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1475          .          .    R16NC1
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1481          .     C16NC1............
              .         V
              .         V
1484          .      R15N1
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1490          .         .        PC2
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1496          .     CP15N1............
              .         V
              .         V
1499          .      SRPC2
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              .         .
1506          .         .     UB17NA
              .         .          V
              .         .          V
1512          .         .     SR17NA
              .         .          V
              .         .          V
1518          .         .      R17NB
              .         .          .
              .         .          .
1524          .         .          .      UB17NB
              .         .          .          .
              .         .          .          .
1530          .         .     CP17NB............
              .         .          V
              .         .          V
1533          .         .     SR17NB
              .         .          V
              .         .          V
1539          .         .       R17A
              .         .          .
              .         .          .
1545          .         .          .      SUB17A
              .         .          .          .
              .         .          .          .
1551          .         .     CP17A1............
              .         .          .
              .         .          .
1554          .         .          .      UB17NC
              .         .          .          .
              .         .          .          .
1560          .         .      CP17A............
              .         .          V
              .         .          V
1563          .         .       R15N
              .         .          .
              .         .          .
1569          .         .          .      SUB15N
              .         .          .          .
              .         .          .          .
1576          .         .      CP15N............
              .         .          V
              .         .          V
1579          .         .      R15N2
              .         .          .
              .         .          .
1585          .     CP15N2............
              .         V
              .         V
1589          .      R15N2
              .         .
              .         .
1603          .         .          .<-------   BPC3T
1598          .         .       DPC3
              .         .          .
              .         .          .
1604          .      CPC3A............
              .         V
              .         V
1610          .      RPC3A
              .         .
              .         .
1624          .         .          .<-------   BPC4T
1619          .         .       DPC4
              .         .          .
              .         .          .
1625          .      CPC4A............
              .         V
              .         V
1631          .      RPC4A
              .         .
              .         .
1645          .         .-------> BPC4AT
1640          .     DPC4AT
              .         .
              .         .
1648          .         .     SUB1-2
              .         .          .
              .         .          .
1654          .         .          .      GCRB18
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1661                CPRET1............
                       V
                       V
1664                SR18S
                       .
                       .
1670                       SUB5S
                               .
                               .
1676                               GC1216
                                       .
                                       .
1682                                       GC1415
                                               .
                                               .
1688                                               SUB6S
                                                       .
                                                       .
1694                                                       SUB7S
                                                               .
                                                               .
1700                       CPRET2.............................................
                               V
                               V
1703                       SRRET2
                               .
                               .
1709                CLEAR............
                       .
                       .
1714                       SUB8S
                               V
                               V
1720                       RGC36
                               .
                               .
1726                               GC36
                                       .
                                       .
1732                       C1GC36............
                               .
                               .
1735                               SUB9S
                                       V
                                       V
1741                               R9S
                                       .
                                       .
1747                       CPGC36............
                               V
                               V
1750                       SRGC36
                               .
                               .
1756                               SUB7A
                                       V
                                       V
1762                               SR7A
                                       V
                                       V
1768                               R10S
                                       .
                                       .
1774                                       SUB10S
                                               .
                                               .
1780                               CP10S............
                                       .
                                       .
1783                                       SUB11S
                                               V
                                               V
1789                                       R11S
                                               .
                                               .
1798                               C10SA............
                                       V
                                       V
1803                               R10SA
                                       .
                                       .
1812                                       GC45
                                               .
                                               .
1818                               CGC45............
                                       .
                                       .
1823                                       PC5
                                               .
                                               .
1837                                               .<-------- BPC4AT
1832                                               DPC4A
                                                       .
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1838                CPC5.............................................
                      V
                      V
1846                RC5
                      .
                      .
1852                  .       SCN5D
                      .          .
                      .          .
1858                CN5D............
                      .
                      .
1863                  .          .<-------    B52T
1861                  .        D52
                      .          .
                      .          .
1864                  .          .        S53A
                      .          .          .
                      .          .          .
1871                  .        C53............
                      .          .
                      .          .
1874                  .          .       S53A1
                      .          .          .
                      .          .          .
1882                  .       C53A............
                      .          .
                      .          .
1885                  .          .       SCN6B
                      .          .          .
                      .          .          .
1895                  .          .          .       SCN6D
                      .          .          .          .
                      .          .          .          .
1902                  .       CP6D........................
                      .          .
                      .          .
1905                  .          .       SCN6C
                      .          .          .
                      .          .          .
1914                  .       CP6C............
                      .          .
                      .          .
1917                CP5D............
                      .
                      .
1920                  .       SCN5C
                      .          .
                      .          .
1926                  .          .       SCN6E
                      .          .          .
                      .          .          .
1932              EAST-I........................
                      V
                      V
1935              EAST-O
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                        *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)    *
*              MAY   1991                *
*           VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01      *
*       Dodson & Associates, Inc.        *
*  RUN DATE  02/25/99  TIME  08:04:35    *
*****************************************
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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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PIMA ROAD THREE BASINS — File: EX100-24.IH1
by Stantec for the City of Scottsdale — Original: 08-07-97 mcg
Project: 28900082 — Revised: 01-20-99 mcg

100-YEAR, 24-HOUR STORM
INTERIM CONDITION:
NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN.
GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED.
THE 60% DESIGN FOR DEER VALLEY BASIN PHASE 1 IS INCLUDED.
THE POWER LINE CHANNEL IS EXTENDED SOUTH TO ROUTE ALL OF THE RUNOFF FROM GRAYHAWK TO THE PIMA FREEWAY EAST-BASIN.

THE GRAYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
DEI FILE NAME: GH23FAB.H1I
MODEL DATE: 21 MAY 96

THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
WOOD/PATEL FILE NAME: DC0721C.DAT
MODEL DATE: 4 JANUARY 96

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

   IT          HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME       0000  STARTING TIME
                        NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      4   0  ENDING DATE
                    NDTIME       1115  ENDING TIME
                     ICENT         19  CENTURY MARK

                 COMPUTATION INTERVAL    0.08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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       *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

WARNING --- ROUTED OUTFLOW (   1071.) IS GREATER THAN MAXIMUM OUTFLOW (    968.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    767.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    910.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    901.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    842.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    802.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    787.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    771.) IS GREATER THAN MAXIMUM OUTFLOW (    750.) IN STORAGE-OUTFLOW TABLE

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

WARNING --- ROUTED OUTFLOW (   1114.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   1204.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   1148.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   1069.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   1002.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    954.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (    907.) IS GREATER THAN MAXIMUM OUTFLOW (    850.) IN STORAGE-OUTFLOW TABLE

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  2

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
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WARNING --- ROUTED OUTFLOW (266.) IS GREATER THAN MAXIMUM OUTFLOW (205.) IN STORAGE-OUTFLOW TABLE

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	S51.1	1337.	12.50	201.	60.	20.	1.13		
+	ROUTED TO	DVDB-O	253.	13.25	200.	60.	20.	1.13		
+									1878.98	13.25
+	DIVERSION TO	B51.1T	253.	0.08	200.	60.	20.	1.13		
+	HYDROGRAPH AT	D51.1T	0.	0.08	0.	0.	0.	1.13		
+	HYDROGRAPH AT	52D4	132.	12.25	13.	4.	1.	0.07		
+	ROUTED TO	52D4R	129.	12.25	13.	4.	1.	0.07		
+	HYDROGRAPH AT	52D4B	69.	12.17	6.	2.	1.	0.02		
+	2 COMBINED AT	52D5C1	184.	12.25	19.	6.	2.	0.09		
+	HYDROGRAPH AT	52D5A	77.	12.17	6.	2.	1.	0.02		
+	ROUTED TO	52D5AR	74.	12.17	6.	2.	1.	0.02		
+	2 COMBINED AT	52D5C2	239.	12.25	26.	8.	3.	0.12		
+	ROUTED TO	52D5R	239.	12.25	26.	8.	3.	0.12		
+	HYDROGRAPH AT	52C3	24.	12.08	2.	1.	0.	0.01		
+	ROUTED TO	52C3R	22.	12.17	2.	1.	0.	0.01		
+	HYDROGRAPH AT	52C3B	55.	12.08	4.	1.	0.	0.02		
+	2 COMBINED AT	2C3BC1	73.	12.17	6.	2.	1.	0.02		
+	2 COMBINED AT	2C3BC2	302.	12.17	32.	10.	3.	0.14		
+	ROUTED TO	52C3BR	287.	12.17	32.	10.	3.	0.14		
+	HYDROGRAPH AT	51C	138.	12.25	14.	4.	1.	0.10		
+	DIVERSION TO	51C1DV	92.	12.25	9.	3.	1.	0.10		
+	HYDROGRAPH AT	51C1D	46.	12.25	5.	1.	0.	0.10		
+	ROUTED TO	51C1R	45.	12.25	5.	1.	0.	0.10		

+	HYDROGRAPH AT	52C1	74.	12.17	6.	2.	1.	0.03
+	2 COMBINED AT	52C1C	101.	12.17	10.	3.	1.	0.13
+	ROUTED TO	52C1R	95.	12.25	10.	3.	1.	0.13
+	HYDROGRAPH AT	52C2A	43.	12.17	3.	1.	0.	0.02
+	2 COMBINED AT	52C2AC	126.	12.17	14.	4.	1.	0.15
+	HYDROGRAPH AT	52C2B	64.	12.17	5.	1.	0.	0.03
+	2 COMBINED AT	52C2BC	190.	12.17	19.	5.	2.	0.17
+	ROUTED TO	52C2BR	176.	12.25	19.	5.	2.	0.17
+	HYDROGRAPH AT	52C2C	47.	12.08	4.	1.	0.	0.01
+	2 COMBINED AT	52C2CC	200.	12.25	22.	7.	2.	0.19
+	ROUTED TO	52C2R	198.	12.25	22.	7.	2.	0.19
+	HYDROGRAPH AT	52C4	56.	12.17	5.	1.	0.	0.02
+	2 COMBINED AT	52C4C1	229.	12.25	27.	8.	3.	0.20
+	2 COMBINED AT	52C4C2	514.	12.25	59.	18.	6.	0.34
+	ROUTED TO	52C4R	510.	12.25	59.	18.	6.	0.34
+	HYDROGRAPH AT	52C13	75.	12.08	5.	2.	1.	0.02
+	DIVERSION TO	STORM	40.	12.08	4.	1.	0.	0.02
+	HYDROGRAPH AT	2C13DV	35.	12.08	1.	0.	0.	0.02
+	HYDROGRAPH AT	52C15	157.	12.08	13.	4.	1.	0.05
+	2 COMBINED AT	2C15C1	192.	12.08	14.	4.	1.	0.07
+	2 COMBINED AT	2C15C2	612.	12.17	72.	22.	7.	0.41
+	ROUTED TO	52C15R	596.	12.25	72.	22.	7.	0.41
+	HYDROGRAPH AT	52C14A	140.	12.17	12.	4.	1.	0.04
+	2 COMBINED AT	2C14AC	719.	12.17	84.	26.	9.	0.45
+	ROUTED TO	2C14AR	700.	12.17	84.	26.	9.	0.45
+	HYDROGRAPH AT	51C1DV	92.	12.25	9.	3.	1.	0.00
+	DIVERSION TO	51C2DV	25.	12.25	3.	1.	0.	0.00
+	HYDROGRAPH AT	51C2D	68.	12.25	7.	2.	1.	0.00
+	ROUTED TO	51C2R	67.	12.25	7.	2.	1.	0.00
+	HYDROGRAPH AT	52C5	42.	12.17	3.	1.	0.	0.02
+	2 COMBINED AT	52C5C	97.	12.17	10.	3.	1.	0.02
+	ROUTED TO	52C5R	90.	12.33	10.	3.	1.	0.02

	HYDROGRAPH AT						
+		52C6	89.	12.17	8.	2.	1.	0.04
	2 COMBINED AT						
+		52C6C	161.	12.25	18.	5.	2.	0.05
	ROUTED TO						
+		52C6R	156.	12.25	18.	5.	2.	0.05
	HYDROGRAPH AT						
+		51C2DV	25.	12.25	3.	1.	0.	0.00
	ROUTED TO						
+		51C3R	25.	12.25	3.	1.	0.	0.00
	HYDROGRAPH AT						
+		51B	573.	12.33	81.	24.	8.	0.57
	DIVERSION TO						
+		51B1DV	527.	12.33	74.	22.	7.	0.57
	HYDROGRAPH AT						
+		51B1D	46.	12.33	6.	2.	1.	0.57
	ROUTED TO						
+		51B1R	45.	12.42	6.	2.	1.	0.57
	HYDROGRAPH AT						
+		52C7	20.	12.08	1.	0.	0.	0.01
	3 COMBINED AT						
+		52C7C	70.	12.25	10.	3.	1.	0.58
	ROUTED TO						
+		52C7R	70.	12.33	10.	3.	1.	0.58
	HYDROGRAPH AT						
+		51B1DV	527.	12.33	74.	22.	7.	0.00
	DIVERSION TO						
+		51B2DV	443.	12.33	62.	18.	6.	0.00
	HYDROGRAPH AT						
+		51B2D	84.	12.33	12.	3.	1.	0.00
	ROUTED TO						
+		51B2R	84.	12.42	12.	3.	1.	0.00
	HYDROGRAPH AT						
+		52C8	24.	12.08	2.	1.	0.	0.01
	2 COMBINED AT						
+		52C8C	89.	12.42	14.	4.	1.	0.01
	ROUTED TO						
+		52C8R	88.	12.42	14.	4.	1.	0.01
	2 COMBINED AT						
+		52C9C1	155.	12.42	24.	7.	2.	0.59
	ROUTED TO						
+		52C9R1	155.	12.42	24.	7.	2.	0.59
	HYDROGRAPH AT						
+		52C9	187.	12.17	15.	5.	2.	0.07
	2 COMBINED AT						
+		52C9C2	257.	12.17	39.	12.	4.	0.65
	ROUTED TO						
+		52C9R2	250.	12.25	39.	12.	4.	0.65
	2 COMBINED AT						
+		2C10C1	406.	12.25	57.	17.	6.	0.71
	ROUTED TO						
+		2C10R1	403.	12.25	57.	17.	6.	0.71
	HYDROGRAPH AT						
+		52C10	33.	12.08	3.	1.	0.	0.01
	2 COMBINED AT						
+		2C10C2	419.	12.25	59.	18.	6.	0.72
	HYDROGRAPH AT						
+		52C11	107.	12.17	9.	3.	1.	0.04
	ROUTED TO						
+		2C11R1	100.	12.17	9.	3.	1.	0.04
	HYDROGRAPH AT						
+		52C13D	40.	12.08	4.	1.	0.	0.00
	2 COMBINED AT						

+	52C11C	140.	12.17	13.	4.	1.	0.04
+ ROUTED TO	2C11CR	132.	12.17	13.	4.	1.	0.04
+ 2 COMBINED AT	2C11C2	539.	12.25	73.	22.	7.	0.76
+ ROUTED TO	2C11R2	534.	12.25	73.	22.	7.	0.76
+ HYDROGRAPH AT	52C12	115.	12.08	7.	2.	1.	0.02
+ 2 COMBINED AT	52C12C	570.	12.25	80.	24.	8.	0.79
+ ROUTED TO	52C12R	563.	12.25	80.	24.	8.	0.79
+ HYDROGRAPH AT	52C14B	76.	12.08	6.	2.	1.	0.02
+ 2 COMBINED AT	C14BC1	597.	12.25	86.	26.	9.	0.81
+ 2 COMBINED AT	C14BC2	1273.	12.25	170.	52.	17.	1.26
+ ROUTED TO	52C14R	1272.	12.25	170.	52.	17.	1.26
+ HYDROGRAPH AT	51B2DV	443.	12.33	62.	18.	6.	0.00
+ DIVERSION TO	51B3DV	372.	12.33	52.	15.	5.	0.00
+ HYDROGRAPH AT	51B3D	71.	12.33	10.	3.	1.	0.00
+ ROUTED TO	51B3R	70.	12.42	10.	3.	1.	0.00
+ HYDROGRAPH AT	52B1	9.	12.08	1.	0.	0.	0.00
+ 2 COMBINED AT	52B1C	72.	12.42	11.	3.	1.	0.00
+ ROUTED TO	52B1R	72.	12.42	11.	3.	1.	0.00
+ HYDROGRAPH AT	51B3DV	372.	12.33	52.	15.	5.	0.00
+ DIVERSION TO	51B4DV	305.	12.33	43.	13.	4.	0.00
+ HYDROGRAPH AT	51B4D	67.	12.33	9.	3.	1.	0.00
+ ROUTED TO	51B4R1	67.	12.42	9.	3.	1.	0.00
+ 2 COMBINED AT	52B2C1	138.	12.42	20.	6.	2.	0.00
+ ROUTED TO	52B2R1	136.	12.42	20.	6.	2.	0.00
+ HYDROGRAPH AT	52B2	78.	12.17	6.	2.	1.	0.03
+ 2 COMBINED AT	52B2C2	160.	12.42	26.	8.	3.	0.04
+ ROUTED TO	52B2R2	159.	12.42	26.	8.	3.	0.04
+ ROUTED TO	52B3R1	157.	12.42	26.	8.	3.	0.04
+ HYDROGRAPH AT	52B3	155.	12.17	14.	4.	1.	0.06
+ 2 COMBINED AT	52B3C2	254.	12.25	40.	12.	4.	0.10
+ ROUTED TO	52B3R2	248.	12.25	40.	12.	4.	0.10
+ HYDROGRAPH AT	52B4	87.	12.17	7.	2.	1.	0.03

	2 COMBINED AT							
+		52B4C	297.	12.25	47.	14.	5.	0.12
	ROUTED TO							
+		52B4R	292.	12.25	47.	14.	5.	0.12
	HYDROGRAPH AT							
+		52B5	71.	12.08	6.	2.	1.	0.02
	2 COMBINED AT							
+		52B5C1	327.	12.25	52.	16.	5.	0.14
	2 COMBINED AT							
+		52B5C2	1599.	12.25	222.	68.	23.	1.40
	ROUTED TO							
+		52B5R	1585.	12.25	223.	68.	23.	1.40
	HYDROGRAPH AT							
+		51B4DV	305.	12.33	43.	13.	4.	0.00
	DIVERSION TO							
+		51B5DV	207.	12.33	29.	9.	3.	0.00
	HYDROGRAPH AT							
+		51B5D	98.	12.33	14.	4.	1.	0.00
	ROUTED TO							
+		51B5R	97.	12.42	14.	4.	1.	0.00
	HYDROGRAPH AT							
+		51B5DV	207.	12.33	29.	9.	3.	0.00
	DIVERSION TO							
+		51B6DV	110.	12.33	15.	5.	2.	0.00
	HYDROGRAPH AT							
+		51B6D	97.	12.33	14.	4.	1.	0.00
	ROUTED TO							
+		51B6R	97.	12.42	14.	4.	1.	0.00
	HYDROGRAPH AT							
+		51B6DV	110.	12.33	15.	5.	2.	0.00
	DIVERSION TO							
+		51B7DV	64.	12.33	9.	3.	1.	0.00
	HYDROGRAPH AT							
+		51B7D	46.	12.33	7.	2.	1.	0.00
	ROUTED TO							
+		51B7R1	46.	12.42	7.	2.	1.	0.00
	3 COMBINED AT							
+		51B7C	240.	12.42	34.	10.	3.	0.00
	ROUTED TO							
+		51B7R2	233.	12.42	34.	10.	3.	0.00
	HYDROGRAPH AT							
+		52B6	230.	12.17	18.	5.	2.	0.10
	2 COMBINED AT							
+		52B6C	305.	12.42	52.	15.	5.	0.10
	ROUTED TO							
+		52B6R	302.	12.42	52.	15.	5.	0.10
	HYDROGRAPH AT							
+		52B7	296.	12.17	25.	8.	3.	0.08
	2 COMBINED AT							
+		52B7C1	444.	12.17	75.	23.	8.	0.18
	2 COMBINED AT							
+		52B7C2	2021.	12.25	298.	91.	31.	1.58
	HYDROGRAPH AT							
+		52A2	252.	12.17	21.	7.	2.	0.06
	2 COMBINED AT							
+		52A2C2	2177.	12.25	319.	98.	33.	1.64
	HYDROGRAPH AT							
+		51B7DV	64.	12.33	9.	3.	1.	0.00
	ROUTED TO							
+		51B8R	63.	12.50	9.	3.	1.	0.00
	HYDROGRAPH AT							
+		52A1	361.	12.17	29.	9.	3.	0.13
	2 COMBINED AT							
+		52A1C	365.	12.17	38.	11.	4.	0.13

+	HYDROGRAPH AT	D51.1	253.	13.25	200.	60.	20.	0.00	
+	2 COMBINED AT	C52A	455.	12.17	237.	71.	24.	0.13	
+	2 COMBINED AT	C52	2578.	12.25	554.	169.	57.	1.77	
+	ROUTED TO	R52	2578.	12.33	554.	169.	57.	1.77	
+	DIVERSION TO	B52T	2578.	0.08	554.	169.	57.	1.77	
+	HYDROGRAPH AT	D52T	0.	0.08	0.	0.	0.	1.77	
+	2 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	2.90	
+	HYDROGRAPH AT	1B	515.	12.33	65.	19.	6.	0.36	
+	ROUTED TO	37AE1	507.	12.42	65.	19.	6.	0.36	
+									2.95 12.42
+	HYDROGRAPH AT	SUB5N	79.	12.17	6.	2.	1.	0.03	
+	2 COMBINED AT	CP5N	530.	12.42	71.	21.	7.	0.39	
+	ROUTED TO	RET5N	502.	12.42	67.	21.	7.	0.39	
+									1807.65 12.42
+	ROUTED TO	R6N.1	446.	12.50	67.	21.	7.	0.39	
+									2.81 12.50
+	HYDROGRAPH AT	SUB6B	83.	12.17	7.	2.	1.	0.03	
+	ROUTED TO	SR6B	62.	12.25	7.	2.	1.	0.03	
+									1774.48 12.25
+	2 COMBINED AT	CP6.1	470.	12.50	73.	23.	8.	0.42	
+	HYDROGRAPH AT	SUB1N	50.	12.17	4.	1.	0.	0.02	
+	ROUTED TO	R2NA	51.	12.17	4.	1.	0.	0.02	
+									1.07 12.17
+	HYDROGRAPH AT	SUB2NA	39.	12.17	3.	1.	0.	0.01	
+	2 COMBINED AT	CP2NA	90.	12.17	7.	2.	1.	0.03	
+	ROUTED TO	SR2NA	76.	12.25	6.	2.	1.	0.03	
+									1775.47 12.25
+	ROUTED TO	R2NB	72.	12.25	6.	2.	1.	0.03	
+									1.48 12.25
+	HYDROGRAPH AT	SUB2NB	96.	12.17	8.	2.	1.	0.03	
+	2 COMBINED AT	CP2NB	135.	12.25	14.	4.	1.	0.06	
+	ROUTED TO	SR2NB	44.	12.58	13.	4.	1.	0.06	
+									1804.17 12.58
+	ROUTED TO	RCP4N	45.	12.58	13.	4.	1.	0.06	
+									1.10 12.58
+	HYDROGRAPH AT	SUB6N	125.	12.17	10.	3.	1.	0.05	
+	ROUTED TO	RET6N	0.	0.08	0.	0.	0.	0.05	
+									1785.55 67.42

	ROUTED TO								
+		RCP4N1	0.	0.08	0.	0.	0.	0.05	
	2 COMBINED AT								
+		CP4N.1	45.	12.58	13.	4.	1.	0.11	
	HYDROGRAPH AT								
+		SUB3N	74.	12.17	6.	2.	1.	0.03	
	ROUTED TO								
+		RET3N	4.	13.08	4.	2.	1.	0.03	
+									1795.13 13.08
	ROUTED TO								
+		R4N	4.	13.17	4.	2.	1.	0.03	
+									0.29 13.17
	2 COMBINED AT								
+		CP4N.2	49.	12.58	17.	6.	2.	0.14	
	HYDROGRAPH AT								
+		SUB4N	84.	12.17	7.	2.	1.	0.03	
	2 COMBINED AT								
+		CP4N	95.	12.17	23.	8.	3.	0.17	
	ROUTED TO								
+		R6N	94.	12.17	23.	8.	3.	0.17	
+									1.60 12.17
	HYDROGRAPH AT								
+		SUB6A	63.	12.08	4.	1.	0.	0.01	
	2 COMBINED AT								
+		CP6.2	132.	12.17	27.	9.	3.	0.18	
	2 COMBINED AT								
+		CP6N	532.	12.50	100.	32.	11.	0.60	
	ROUTED TO								
+		RCP6N	536.	12.58	100.	32.	11.	0.60	
+									2.38 12.58
	HYDROGRAPH AT								
+		SUB3C	54.	12.08	3.	1.	0.	0.01	
	2 COMBINED AT								
+		CP3C	539.	12.58	103.	33.	11.	0.61	
	ROUTED TO								
+		R3C	521.	12.58	103.	33.	11.	0.61	
+									1674.82 12.58
	HYDROGRAPH AT								
+		GC1018	114.	12.17	9.	3.	1.	0.04	
	HYDROGRAPH AT								
+		GC1-9	67.	12.17	5.	2.	1.	0.03	
	HYDROGRAPH AT								
+		SUB3S	33.	12.17	3.	1.	0.	0.01	
	4 COMBINED AT								
+		CP3S	561.	12.58	120.	38.	13.	0.69	
	ROUTED TO								
+		RT3S	549.	12.58	120.	38.	13.	0.69	
+									1744.32 12.58
	HYDROGRAPH AT								
+		SUB4S	88.	12.17	7.	2.	1.	0.03	
	ROUTED TO								
+		RT4S	89.	12.17	7.	2.	1.	0.03	
+									1743.45 12.17
	HYDROGRAPH AT								
+		GC2-8	36.	12.17	3.	1.	0.	0.01	
	3 COMBINED AT								
+		1PGC28	572.	12.58	130.	41.	14.	0.74	
	HYDROGRAPH AT								
+		SUB3D3	37.	12.17	3.	1.	0.	0.01	
	2 COMBINED AT								
+		CPGC28	578.	12.58	133.	42.	14.	0.75	
	ROUTED TO								
+		SRGC28	577.	12.67	132.	42.	14.	0.75	
+									1712.77 12.67
	ROUTED TO								
+		RT7S	555.	12.75	132.	42.	14.	0.75	
+									1744.46 12.75

+	HYDROGRAPH AT	GC7	35.	12.17	3.	1.	0.	0.01	
+	2 COMBINED AT	CP7S	559.	12.75	135.	43.	14.	0.76	
+	DIVERSION TO	B7ST	559.	0.08	135.	43.	14.	0.76	
+	HYDROGRAPH AT	D7ST	0.	0.08	0.	0.	0.	0.76	
+	2 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	3.67	
+	HYDROGRAPH AT	SUB3D1	28.	12.08	2.	1.	0.	0.01	
+	ROUTED TO	RD1B1	23.	12.17	2.	1.	0.	0.01	
+									1.76 12.17
+	HYDROGRAPH AT	SUB3B1	48.	12.08	4.	1.	0.	0.01	
+	2 COMBINED AT	CP3B1	64.	12.08	6.	2.	1.	0.02	
+	ROUTED TO	RB13F	51.	12.17	6.	2.	1.	0.02	
+									1.84 12.17
+	HYDROGRAPH AT	SUB3F	140.	12.08	10.	3.	1.	0.03	
+	2 COMBINED AT	CP3F	172.	12.08	16.	5.	2.	0.06	
+	HYDROGRAPH AT	SUB3B2	70.	12.17	6.	2.	1.	0.02	
+	ROUTED TO	RB2E1	67.	12.17	6.	2.	1.	0.02	
+									1.91 12.17
+	ROUTED TO	RB2E2	63.	12.25	6.	2.	1.	0.02	
+									1.95 12.25
+	HYDROGRAPH AT	SUB3E1	70.	12.17	6.	2.	1.	0.02	
+	2 COMBINED AT	1CPE31	131.	12.17	12.	4.	1.	0.05	
+	HYDROGRAPH AT	SUB3D2	60.	12.17	5.	2.	1.	0.02	
+	ROUTED TO	RD2E2	60.	12.17	5.	2.	1.	0.02	
+									1.83 12.17
+	HYDROGRAPH AT	SUB3E2	39.	12.08	3.	1.	0.	0.01	
+	2 COMBINED AT	CP3E2	90.	12.17	8.	2.	1.	0.03	
+	HYDROGRAPH AT	PC3	74.	12.25	8.	2.	1.	0.04	
+	4 COMBINED AT	CPC3	434.	12.17	44.	13.	5.	0.18	
+	DIVERSION TO	BPC3T	434.	0.08	44.	13.	5.	0.18	
+	HYDROGRAPH AT	DPC3T	0.	0.08	0.	0.	0.	0.18	
+	HYDROGRAPH AT	SUB3E3	63.	12.08	5.	1.	0.	0.02	
+	HYDROGRAPH AT	PC4	35.	12.25	4.	1.	0.	0.02	
+	HYDROGRAPH AT	D7S	559.	12.75	135.	43.	14.	0.00	
+	3 COMBINED AT	CPC4	574.	12.67	143.	45.	15.	0.04	
+	DIVERSION TO	BPC4T	574.	0.08	143.	45.	15.	0.04	

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          HYDROGRAPH AT
+                         DPC4T      0.   0.08       0.       0.       0.    0.04
          3 COMBINED AT
+                         CLEAR      0.   0.08       0.       0.       0.    3.89
          HYDROGRAPH AT
+                           1A1    591.  12.50      95.      28.       9.    0.75
          ROUTED TO
+                          R1A1    526.  12.75      94.      28.       9.    0.75
+                                                                              1.21      12.75
          HYDROGRAPH AT
+                           1A2   1330.  12.17     126.      38.      13.    0.61
          2 COMBINED AT
+                           C1A   1330.  12.17     217.      66.      22.    1.36
          ROUTED TO
+                          R14R   1056.  12.33     217.      66.      22.    1.36
+                                                                              4.08      12.33
          ROUTED TO
+                        RET141   1071.  12.33     211.      66.      22.    1.36
+                                                                           1795.20      12.33
          ROUTED TO
+                         R14.1    940.  12.42     210.      66.      22.    1.36
+                                                                              3.87      12.42
          HYDROGRAPH AT
+                        SUB13N     93.  12.17       8.       2.       1.    0.04
          ROUTED TO
+                         R14.1     85.  12.25       8.       2.       1.    0.04
+                                                                              1.74      12.25
          HYDROGRAPH AT
+                        SUB14N    105.  12.17      10.       3.       1.    0.05
          3 COMBINED AT
+                          CP14   1031.  12.42     227.      71.      24.    1.44
          ROUTED TO
+                         RET14    910.  12.50     222.      71.      24.    1.44
+                                                                           1756.56      12.50
          ROUTED TO
+                         R18.1    916.  12.58     222.      71.      24.    1.44
+                                                                              3.07      12.58
          HYDROGRAPH AT
+                        SUB20N     55.  12.17       5.       2.       1.    0.02
          ROUTED TO
+                           R19     52.  12.25       5.       2.       1.    0.02
+                                                                              1.25      12.25
          HYDROGRAPH AT
+                        SUB19N    102.  12.17       9.       3.       1.    0.04
          2 COMBINED AT
+                         CP19N    150.  12.17      14.       4.       1.    0.06
          ROUTED TO
+                         R18NC    141.  12.25      14.       4.       1.    0.06
+                                                                              1.77      12.25
          HYDROGRAPH AT
+                        UB18NC     65.  12.17       5.       2.       1.    0.02
          3 COMBINED AT
+                        CP18NC    967.  12.58     239.      77.      26.    1.53
          ROUTED TO
+                          RPC1    962.  12.58     239.      77.      26.    1.53
+                                                                              2.60      12.58
          HYDROGRAPH AT
+                        UB18NA     67.  12.17       5.       2.       1.    0.02
          ROUTED TO
+                         1RPC1     33.  12.25       5.       2.       1.    0.02
+                                                                              0.44      12.25
          HYDROGRAPH AT
+                        UB18NB     29.  12.08       2.       1.       0.    0.01
          ROUTED TO
+                         2RPC1     16.  12.25       2.       1.       0.    0.01
+                                                                              0.22      12.25
          HYDROGRAPH AT
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+                    PC1      82.  12.33      12.      4.      1.    0.06
     3 COMBINED AT
+                  1CPC1     130.  12.33      20.      6.      2.    0.09
     ROUTED TO
+                  SRPC1     130.  12.33      20.      6.      2.    0.09
+                                                                          1748.37    12.33
     2 COMBINED AT
+                   CPC1    1058.  12.50     258.     83.     28.    1.62
     ROUTED TO
+                 R16NA1    1055.  12.58     258.     83.     28.    1.62
+                                                                             2.48    12.58
     HYDROGRAPH AT
+                 UB16NA      44.  12.17       3.      1.      0.    0.01
     ROUTED TO
+                 R16NA1      40.  12.17       3.      1.      0.    0.01
+                                                                             0.78    12.17
     2 COMBINED AT
+                 C16NA1    1064.  12.50     262.     84.     28.    1.63
     ROUTED TO
+                 R16NB1    1077.  12.58     261.     84.     28.    1.63
+                                                                             2.50    12.58
     HYDROGRAPH AT
+                 UB16NB      49.  12.17       4.      1.      0.    0.02
     ROUTED TO
+                 R16NB1      46.  12.17       4.      1.      0.    0.02
+                                                                             0.85    12.17
     2 COMBINED AT
+                 C16NB1    1086.  12.58     265.     85.     29.    1.65
     ROUTED TO
+                 R16NC1    1102.  12.58     265.     85.     29.    1.65
+                                                                             3.09    12.58
     HYDROGRAPH AT
+                   SUB7N      83.  12.17       6.      2.      1.    0.03
     ROUTED TO
+                    R8NC      74.  12.17       6.      2.      1.    0.03
+                                                                             1.61    12.17
     HYDROGRAPH AT
+                  SUB8NA      16.  12.08       1.      0.      0.    0.00
     ROUTED TO
+                   SR8NA       1.  12.92       1.      0.      0.    0.00
+                                                                          1793.66    13.00
     ROUTED TO
+                    R8NB       1.  12.92       1.      0.      0.    0.00
+                                                                             0.01    13.08
     HYDROGRAPH AT
+                  SUB8NB      42.  12.08       3.      1.      0.    0.01
     2 COMBINED AT
+                   CP8NB      43.  12.08       4.      1.      0.    0.02
     ROUTED TO
+                   SR8NB       2.  11.83       2.      1.      0.    0.02
+                                                                          1787.87    13.67
     ROUTED TO
+                    R8NC       2.  11.92       2.      1.      0.    0.02
+                                                                             0.02    11.92
     HYDROGRAPH AT
+                  SUB8NC      60.  12.08       4.      1.      0.    0.02
     3 COMBINED AT
+                   CP8NC     117.  12.17      12.      4.      1.    0.07
     ROUTED TO
+                   SR8NC      38.  12.42      12.      4.      1.    0.07
+                                                                          1780.17    12.42
     ROUTED TO
+                     R9N      39.  12.50      12.      4.      1.    0.07
+                                                                             0.83    12.50
     HYDROGRAPH AT
+                   SUB9N     154.  12.17      12.      4.      1.    0.05
     2 COMBINED AT
+                   CP9N     165.  12.17      24.      8.      3.    0.12
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          ROUTED TO
+                    R10B      164.  12.17        24.        8.        3.      0.12
+                                                                                        1.79      12.17

          HYDROGRAPH AT
+                    SUB10B     93.  12.08         7.        2.        1.      0.03

          2 COMBINED AT
+                    CP10B     244.  12.17        31.       10.        3.      0.15

          ROUTED TO
+                    R11NA     248.  12.17        31.       10.        3.      0.15
+                                                                                        1.85      12.17

          HYDROGRAPH AT
+                    UB11NA     25.  12.08         2.        0.        0.      0.01

          2 COMBINED AT
+                    CP11NA    265.  12.17        33.       10.        4.      0.16

          ROUTED TO
+                    SR11NA    172.  12.25        32.       10.        4.      0.16
+                                                                                     1743.69      12.25

          ROUTED TO
+                    R11NB     169.  12.33        32.       10.        4.      0.16
+                                                                                        0.82      12.33

          HYDROGRAPH AT
+                    UB11NB     26.  12.08         2.        0.        0.      0.01

          2 COMBINED AT
+                    CP11NB    175.  12.33        34.       11.        4.      0.17

          ROUTED TO
+                    SR11NB    107.  12.42        33.       11.        4.      0.17
+                                                                                     1737.96      12.42

          ROUTED TO
+                    R11NC     109.  12.42        33.       11.        4.      0.17
+                                                                                        0.65      12.42

          HYDROGRAPH AT
+                    UB11NC     23.  12.08         1.        0.        0.      0.01

          2 COMBINED AT
+                    C11NC1    114.  12.42        34.       11.        4.      0.17

          HYDROGRAPH AT
+                    SUB10A     95.  12.08         7.        2.        1.      0.03

          ROUTED TO
+                    R12NB      97.  12.17         7.        2.        1.      0.03
+                                                                                        0.83      12.17

          HYDROGRAPH AT
+                    UB12NA     40.  12.08         3.        1.        0.      0.02

          ROUTED TO
+                    SR12NA      1.  16.08         1.        1.        0.      0.02
+                                                                                     1743.52      16.50

          ROUTED TO
+                    R12NA       1.  16.08         1.        1.        0.      0.02
+                                                                                        0.01      16.58

          HYDROGRAPH AT
+                    UB12NB     41.  12.08         3.        1.        0.      0.02

          3 COMBINED AT
+                    CP12NB    136.  12.17        11.        4.        1.      0.06

          ROUTED TO
+                    SR12NB      6.  13.33         3.        2.        1.      0.06
+                                                                                     1746.03      13.33

          ROUTED TO
+                    R11NC2      6.  13.42         3.        2.        1.      0.06
+                                                                                        0.21      13.42

          2 COMBINED AT
+                    CP11NC    116.  12.42        38.       13.        5.      0.23

          ROUTED TO
+                    SR11NC    101.  12.67        36.       13.        5.      0.23
+                                                                                     1735.88      12.67

          ROUTED TO
+                    R16NC     100.  12.67        36.       13.        5.      0.23
+                                                                                        1.66      12.67

          HYDROGRAPH AT
+                    UB16NC    104.  12.17         8.        3.        1.      0.03
```

+	2 COMBINED AT	CP16NC	113.	12.67	43.	16.	6.	0.27	
+	ROUTED TO	R16NC1	114.	12.67	43.	16.	6.	0.27	
+									1.28 12.67
+	2 COMBINED AT	C16NC1	1202.	12.58	308.	100.	35.	1.92	
+	ROUTED TO	R15N1	1197.	12.58	308.	100.	35.	1.92	
+									3.21 12.58
+	HYDROGRAPH AT	PC2	109.	12.17	11.	3.	1.	0.05	
+	2 COMBINED AT	CP15N1	1227.	12.58	318.	104.	36.	1.97	
+	ROUTED TO	SRPC2	1204.	12.67	318.	104.	35.	1.97	
+									1736.18 12.67
+	HYDROGRAPH AT	UB17NA	32.	12.08	2.	1.	0.	0.01	
+	ROUTED TO	SR17NA	4.	12.58	1.	1.	0.	0.01	
+									1759.17 12.58
+	ROUTED TO	R17NB	4.	12.58	1.	1.	0.	0.01	
+									1756.04 12.58
+	HYDROGRAPH AT	UB17NB	31.	12.08	2.	1.	0.	0.01	
+	2 COMBINED AT	CP17NB	32.	12.08	4.	1.	0.	0.02	
+	ROUTED TO	SR17NB	1.	11.75	1.	1.	0.	0.02	
+									1756.90 23.25
+	ROUTED TO	R17A	1.	11.83	1.	1.	0.	0.02	
+									1752.09 11.83
+	HYDROGRAPH AT	SUB17A	31.	12.08	2.	1.	0.	0.01	
+	2 COMBINED AT	CP17A1	32.	12.08	3.	2.	1.	0.03	
+	HYDROGRAPH AT	UB17NC	21.	12.08	1.	0.	0.	0.01	
+	2 COMBINED AT	CP17A	54.	12.08	4.	2.	1.	0.03	
+	ROUTED TO	R15N	37.	12.17	4.	2.	1.	0.03	
+									0.97 12.17
+	HYDROGRAPH AT	SUB15N	139.	12.17	11.	4.	1.	0.04	
+	2 COMBINED AT	CP15N	176.	12.17	15.	5.	2.	0.07	
+	ROUTED TO	R15N2	181.	12.17	15.	5.	2.	0.07	
+									1.97 12.17
+	2 COMBINED AT	CP15N2	1229.	12.67	331.	109.	37.	2.04	
+	ROUTED TO	R15N2	1194.	12.75	331.	109.	37.	2.04	
+									2.86 12.75
+	HYDROGRAPH AT	DPC3	434.	12.17	44.	13.	5.	0.00	
+	2 COMBINED AT	CPC3A	1254.	12.75	372.	122.	42.	2.04	
+	ROUTED TO	RPC3A	1259.	12.75	372.	122.	42.	2.04	
+									2.93 12.75
+	HYDROGRAPH AT	DPC4	574.	12.67	143.	45.	15.	0.00	

	2 COMBINED AT								
+		CPC4A	1830.	12.75	515.	166.	57.	2.04	
	ROUTED TO								
+		RPC4A	1796.	12.75	514.	166.	57.	2.04	
+									3.45 12.75
	DIVERSION TO								
+		BPC4AT	1796.	0.08	514.	166.	57.	2.04	
	HYDROGRAPH AT								
+		DPC4AT	0.	0.08	0.	0.	0.	2.04	
	HYDROGRAPH AT								
+		SUB1-2	179.	12.17	16.	5.	2.	0.06	
	HYDROGRAPH AT								
+		GCRB18	30.	12.08	3.	1.	0.	0.01	
	2 COMBINED AT								
+		CPRET1	209.	12.17	19.	6.	2.	0.07	
	ROUTED TO								
+		SR18S	0.	0.08	0.	0.	0.	0.07	
+									1739.57 75.58
	HYDROGRAPH AT								
+		SUB5S	75.	12.17	6.	2.	1.	0.03	
	HYDROGRAPH AT								
+		GC1216	96.	12.17	8.	2.	1.	0.04	
	HYDROGRAPH AT								
+		GC1415	115.	12.17	10.	3.	1.	0.05	
	HYDROGRAPH AT								
+		SUB6S	58.	12.17	5.	2.	1.	0.02	
	HYDROGRAPH AT								
+		SUB7S	84.	12.17	7.	2.	1.	0.03	
	5 COMBINED AT								
+		CPRET2	427.	12.17	35.	10.	3.	0.16	
	ROUTED TO								
+		SRRET2	0.	0.08	0.	0.	0.	0.16	
+									1690.19 66.17
	2 COMBINED AT								
+		CLEAR	0.	0.08	0.	0.	0.	0.22	
	HYDROGRAPH AT								
+		SUB8S	79.	12.17	6.	2.	1.	0.03	
	ROUTED TO								
+		RGC36	68.	12.17	6.	2.	1.	0.03	
+									1.19 12.17
	HYDROGRAPH AT								
+		GC36	100.	12.17	9.	2.	1.	0.04	
	2 COMBINED AT								
+		C1GC36	168.	12.17	15.	4.	1.	0.07	
	HYDROGRAPH AT								
+		SUB9S	68.	12.17	6.	2.	1.	0.02	
	ROUTED TO								
+		R9S	70.	12.17	6.	2.	1.	0.02	
+									3.48 12.17
	2 COMBINED AT								
+		CPGC36	238.	12.17	20.	6.	2.	0.09	
	ROUTED TO								
+		SRGC36	266.	12.17	20.	6.	2.	0.09	
+									1669.33 12.17
	HYDROGRAPH AT								
+		SUB7A	28.	12.08	2.	1.	0.	0.01	
	ROUTED TO								
+		SR7A	8.	12.42	2.	1.	0.	0.01	
+									1702.32 12.42
	ROUTED TO								
+		R10S	7.	12.58	2.	1.	0.	0.01	
+									2.60 12.58
	HYDROGRAPH AT								
+		SUB10S	79.	12.17	7.	2.	1.	0.02	
	2 COMBINED AT								
+		CP10S	82.	12.17	9.	3.	1.	0.03	

	HYDROGRAPH AT								
+		SUB11S	116.	12.08	7.	2.	1.	0.02	
	ROUTED TO								
+		R11S	86.	12.17	7.	2.	1.	0.02	
+									3.71 12.17
	2 COMBINED AT								
+		C10SA	168.	12.17	16.	5.	2.	0.06	
	ROUTED TO								
+		R10SA	174.	12.17	16.	5.	2.	0.06	
+									4.29 12.17
	HYDROGRAPH AT								
+		GC45	50.	12.08	3.	1.	0.	0.01	
	2 COMBINED AT								
+		CGC45	197.	12.17	18.	6.	2.	0.07	
	HYDROGRAPH AT								
+		PC5	58.	12.25	7.	2.	1.	0.04	
	HYDROGRAPH AT								
+		DPC4A	1796.	12.75	514.	166.	57.	0.00	
	5 COMBINED AT								
+		CPC5	1869.	12.75	559.	180.	62.	0.42	
	ROUTED TO								
+		RC5	1853.	12.83	558.	180.	62.	0.42	
+									3.50 12.83
	HYDROGRAPH AT								
+		SCN5D	81.	12.25	8.	2.	1.	0.05	
	2 COMBINED AT								
+		CN5D	1865.	12.83	566.	182.	62.	0.47	
	HYDROGRAPH AT								
+		D52	2578.	12.33	554.	169.	57.	0.00	
	HYDROGRAPH AT								
+		S53A	315.	12.25	32.	9.	3.	0.18	
	2 COMBINED AT								
+		C53	2890.	12.25	586.	178.	60.	0.18	
	HYDROGRAPH AT								
+		S53A1	543.	12.33	64.	19.	6.	0.34	
	2 COMBINED AT								
+		C53A	3425.	12.25	650.	197.	66.	0.52	
	HYDROGRAPH AT								
+		SCN6B	163.	12.17	14.	4.	1.	0.05	
	HYDROGRAPH AT								
+		SCN6D	76.	12.17	6.	2.	1.	0.04	
	3 COMBINED AT								
+		CP6D	3600.	12.25	669.	203.	68.	0.61	
	HYDROGRAPH AT								
+		SCN6C	381.	12.17	32.	10.	3.	0.14	
	2 COMBINED AT								
+		CP6C	3905.	12.25	701.	213.	72.	0.74	
	2 COMBINED AT								
+		CP5D	5216.	12.25	1266.	393.	134.	1.21	
	HYDROGRAPH AT								
+		SCN5C	313.	12.25	30.	9.	3.	0.19	
	HYDROGRAPH AT								
+		SCN6E	44.	12.50	7.	2.	1.	0.04	
	3 COMBINED AT								
+		EAST-I	5564.	12.25	1303.	403.	138.	1.45	
	ROUTED TO								
+		EAST-O	4060.	12.75	1296.	403.	138.	1.45	
+									1612.85 12.75
1									

APPENDIX H

DISKETTE OF HEC-1 FILES

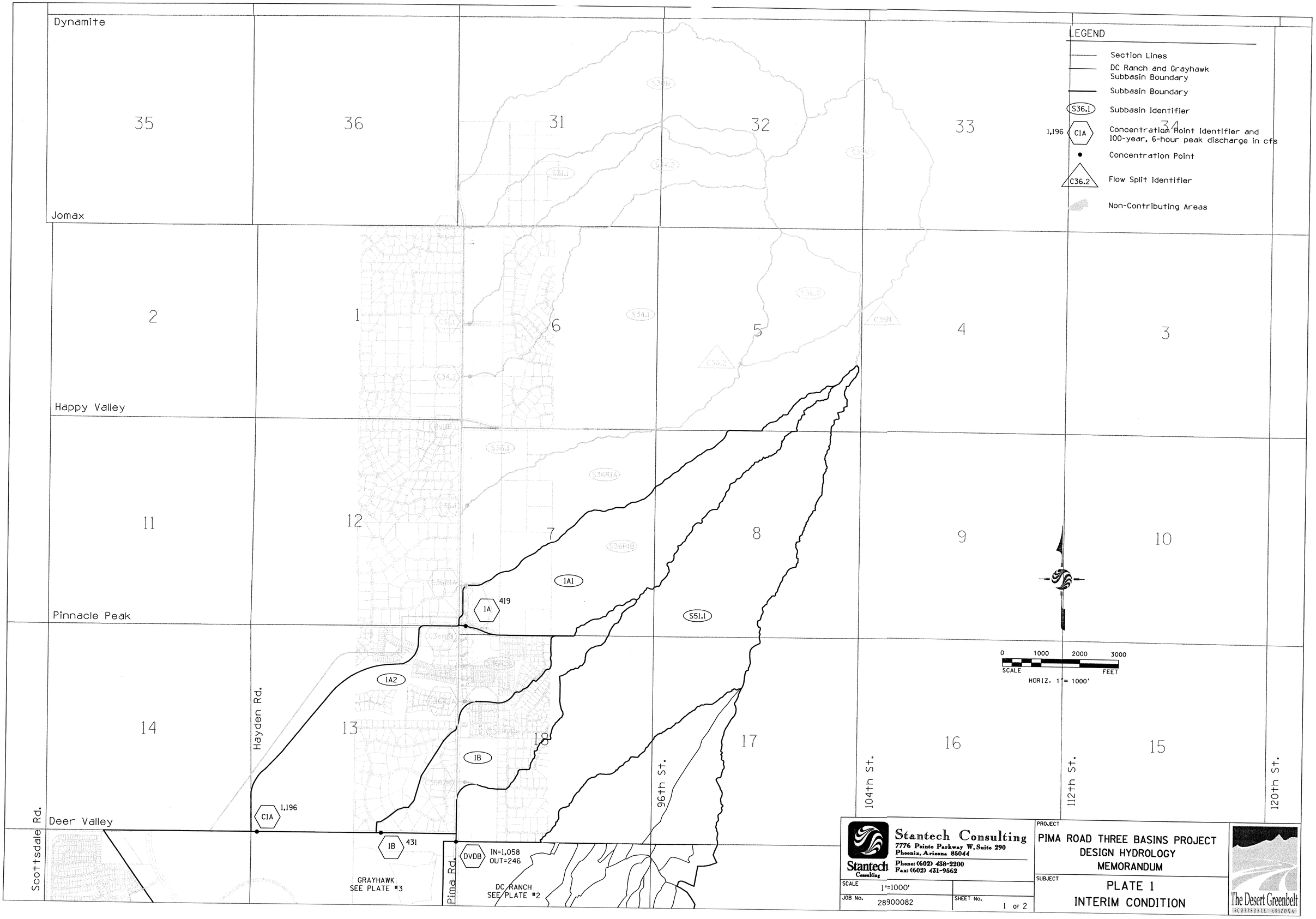
Stantech Consulting
7776 Pointe Parkway W, Suite 290
Phoenix, Arizona 85044
Phone: (602) 438-2200
Fax: (602) 431-9562

SCALE 1"=1000'	
JOB No. 28900082	SHEET No. 2 OF 2

PROJECT
PIMA ROAD THREE BASINS PROJECT
DESIGN HYDROLOGY
MEMORANDUM

SUBJECT
PLATE 1
INTERIM CONDITION

The Desert Greenbelt
SCOTTSDALE ARIZONA



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