

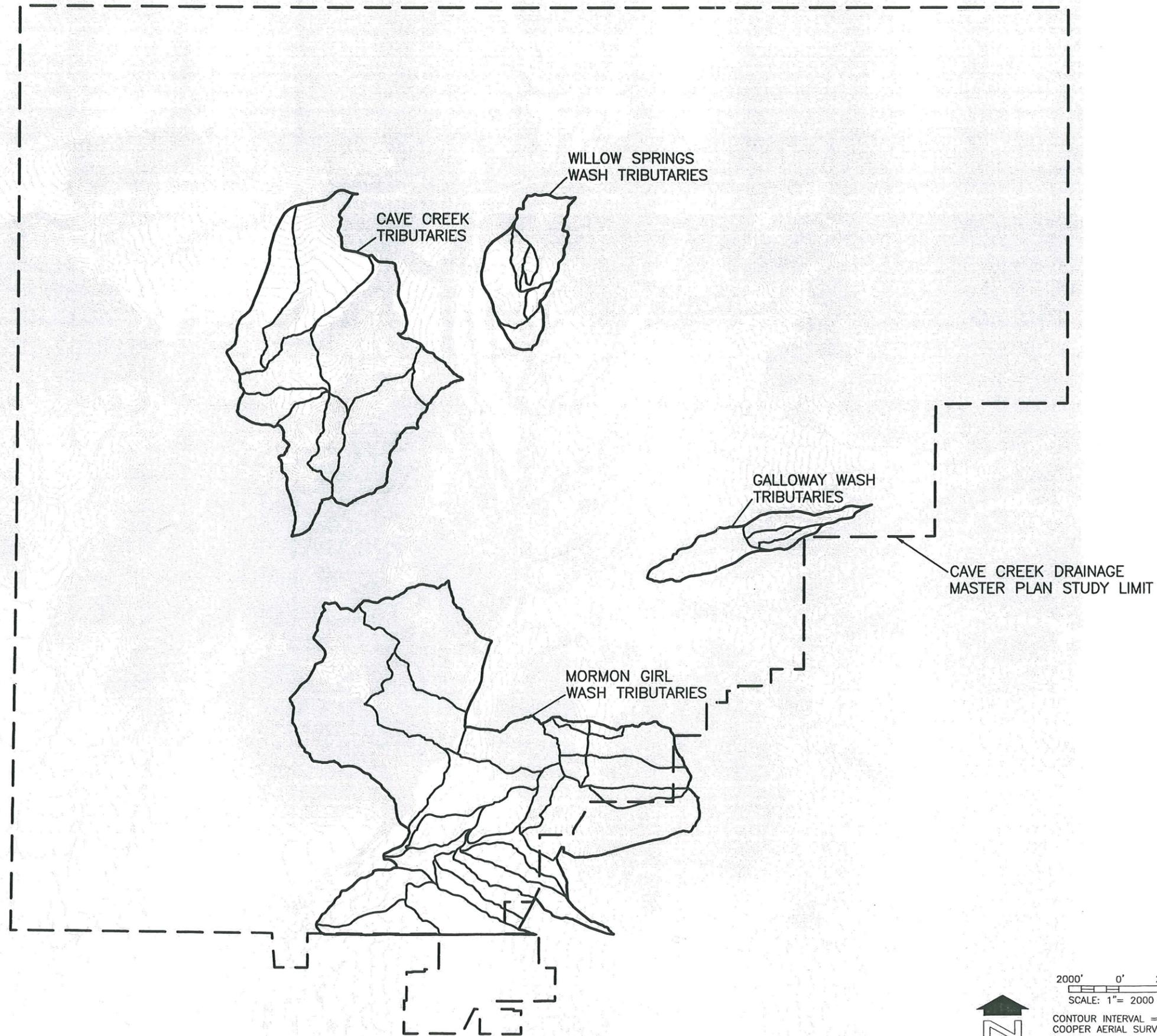
APPENDIX B HYDROLOGY

Sheets 1 through 14 of the Hydrology Report

- New Hydrologic Model Locations
- Existing Hydrologic Model Locations
- SCS Soils Map
- Land Use (Existing and Future)
- Sheet Index
- Sub-basin Identification
- HEC-1 Schematic

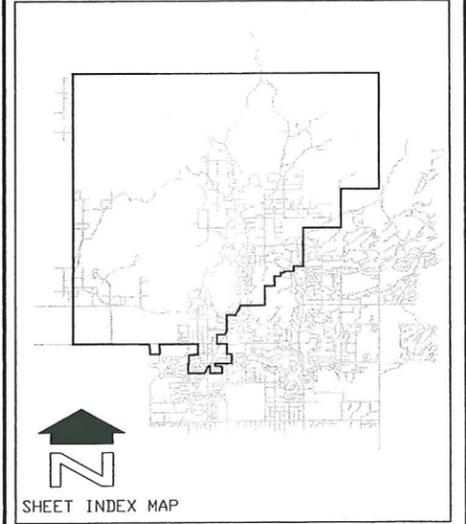
HEC-1 Printouts

C:\PW\...ng\PHX\l\potter\dms45387\Figure_01.dwg, Layout2, 7/26/2007 2:36:19 PM, lpotter



LEGEND

- DMP BOUNDARY
- NEW HYDROLOGY



NO.	REVISION	BY	DATE
2			
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
 PROJECT CONTROL NUMBER: 690.02.20
 CONTRACT NUMBER: FCD 2004C072

NEW HYDROLOGIC MODEL LOCATIONS

SCALE: 1" = 2000 FEET
 CONTOUR INTERVAL = 10'
 COOPER AERIAL SURVEY'S COMPANY
 FLIGHT DATES: November 2003
 through December 2005

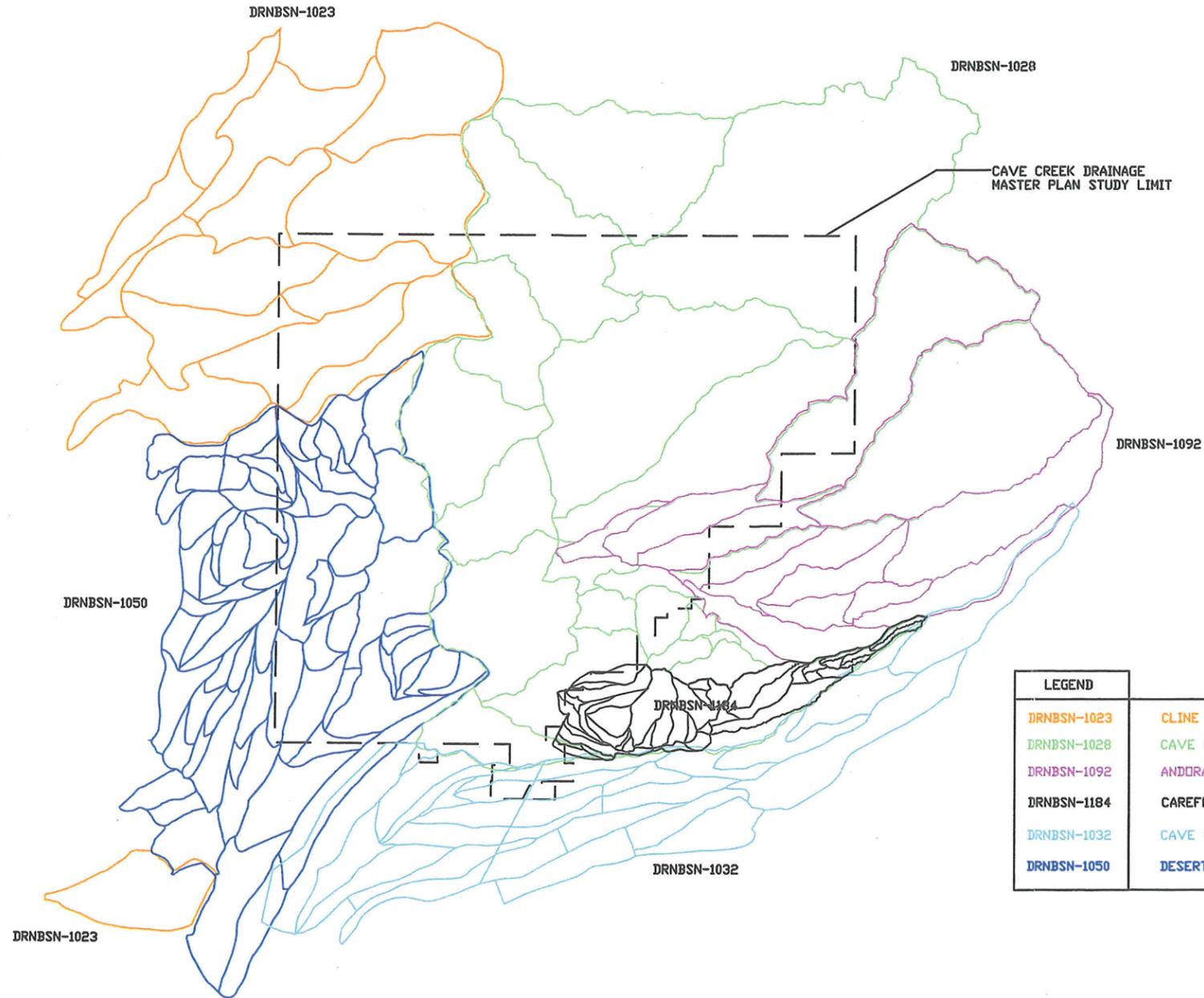
HDR ENGINEERING, INC.		DATE	
3200 East Camelback Road, Suite 350 PHOENIX, ARIZONA 85018-2311 (602) 522-7700			
BY	DATE		
DESIGN D. MARTINEZ	05/18/07		
DESIGN CHK. L. POTTER	05/18/07		
PLANS D. MARTINEZ	05/18/07		
PLANS CHK. M. FOUNTAIN	05/18/07		

PRELIMINARY
NOT FOR
CONSTRUCTION

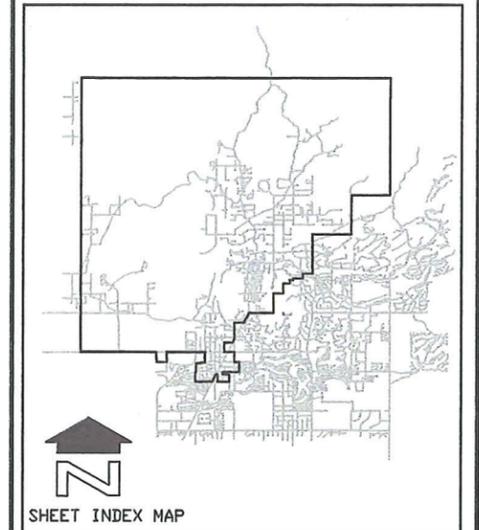
CAVE CREEK DRAINAGE MASTER PLAN EXISTING HYDROLOGIC MODELS

LEGEND

DMP BOUNDARY - - - - -
 HYDROLOGIC MODEL NAME DRNBSN-1092



LEGEND	
DRNBSN-1023	CLINE CREEK AND RODGER CREEK FDS 1990
DRNBSN-1028	CAVE CREEK FROM TONTO NATIONAL FOREST TO CAREFREE HWY FDS 1995
DRNBSN-1092	ANDORA HILLS AND GALLOWAY WASHES FDS 1999
DRNBSN-1184	CAREFREE DMP 2001
DRNBSN-1032	CAVE CREEK FDS 1996
DRNBSN-1050	DESERT HILLS AREA FDS 1997



NO.	REVISION	BY	DATE
2			
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
 PROJECT CONTROL NUMBER: 690.02.20
 CONTRACT NUMBER: FCD 2004C072

EXISTING HYDROLOGIC MODELS

5000' 0' 5000' 10000'

SCALE: 1" = 5000 FEET

CONTOUR INTERVAL = 10'
 COOPER AERIAL SURVEY'S COMPANY
 FLIGHT DATES: November 2003
 through December 2005



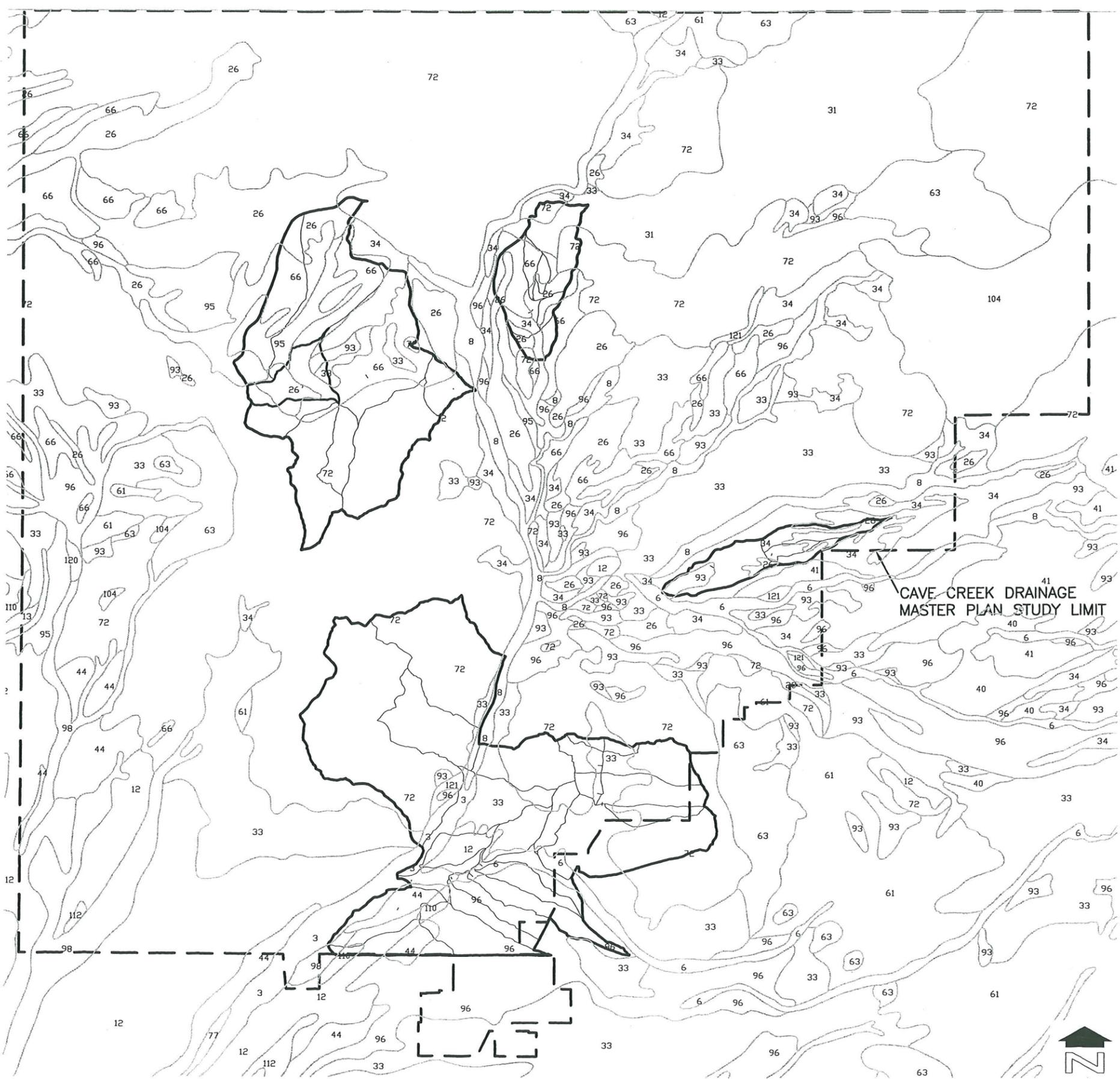
HDR ENGINEERING, INC.
 3200 East Camelback Road, Suite 350
 PHOENIX, ARIZONA 85018-2311
 (602) 522-7700

PRELIMINARY
 NOT FOR
 CONSTRUCTION

BY	DATE
DESIGN	D. MARTINEZ 05/18/07
DESIGN CHK.	L. POTTER 05/18/07
PLANS	D. MARTINEZ 05/18/07
PLANS CHK.	M. FOUNTAIN 05/18/07

SHEET 2

C:\P\www\ng\PHX\potter\dms45387\Figure_03.dwg, Layout2, 7/26/2007 3:13:00 PM, Ipotter



SOIL TYPES

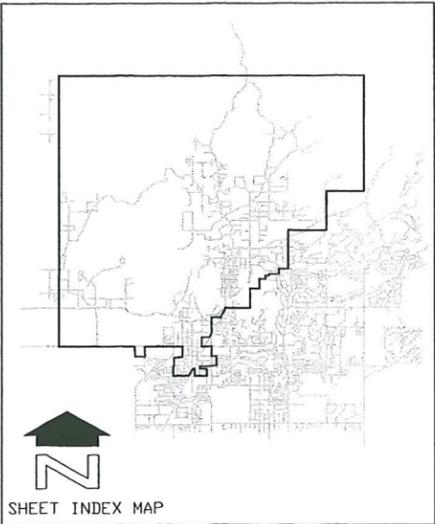
3	ANTHO-CARRIZO-MARIPO
6	ANTHONY-ARIZO
8	ARIZO
12	CAREFREE, 1-8% SLOPES
26	CONTINENTAL, 1-8% SLOPES
31	DIXALETA-ROCK 25-65% SLOPES
33	EBA, 1-8% SLOPES
34	EBA, 8-20% SLOPES
44	EBON, 1-8% SLOPES
66	GREYEAGLE-SUNCITY VARIANT
72	LEHMANS-ROCK 8-65% SLOPES
93	NICKEL-CAVE 8-30% SLOPES
95	OHACO
96	PIRAMT-TREMANT 1-10% SLOPES
98	PINALENO-TRES HERMANOS
110	SUNCITY-CIPRIANO
121	TRES HERMANOS-ANTHONY

REFERENCE: USDA SCS SOIL SURVEY OF AGUILA-CARFREE AREA, 4186
DATE:

LEGEND

- DMP BOUNDARY
- NEW HYDROLOGY

CAVE CREEK DRAINAGE MASTER PLAN STUDY LIMIT

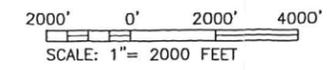


NO.	REVISION	BY	DATE
2			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

SCS SOILS MAP

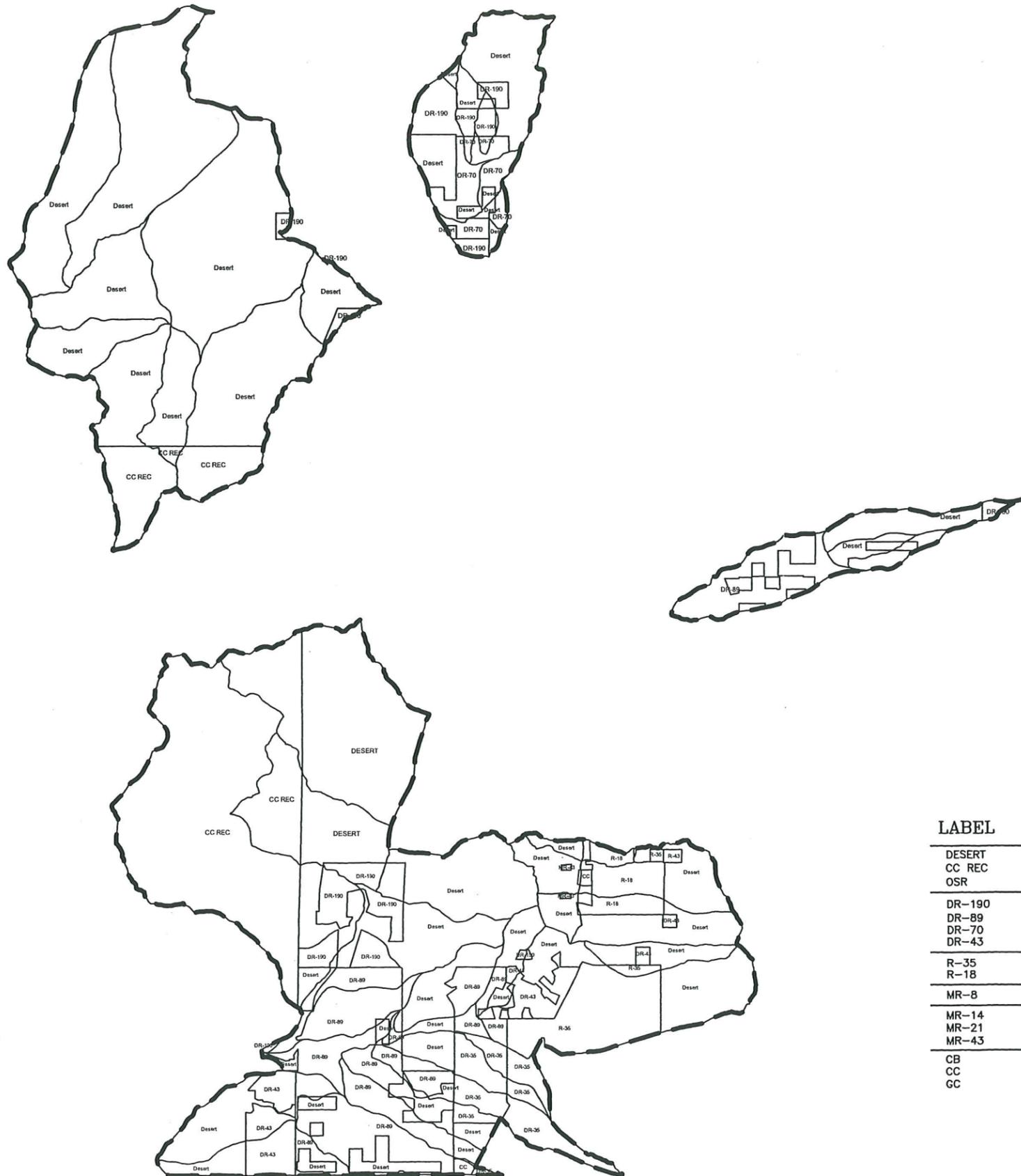


CONTOUR INTERVAL = 10'
COOPER AERIAL SURVEY'S COMPANY
FLIGHT DATES: November 2003 through December 2005

HDR ENGINEERING, INC. 3200 East Camelback Road, Suite 350 PHOENIX, ARIZONA 85018-2311 (602) 522-7700		
DESIGN	D. MARTINEZ	05/18/07
DESIGN CHK.	L. POTTER	05/18/07
PLANS	D. MARTINEZ	05/18/07
PLANS CHK.	M. FOUNTAIN	05/18/07

PRELIMINARY NOT FOR CONSTRUCTION

C:\P\working\PHX\pottendms45387\Figure_04.dwg_Layout2, 7/26/2007 3:30:21 PM, ipottier



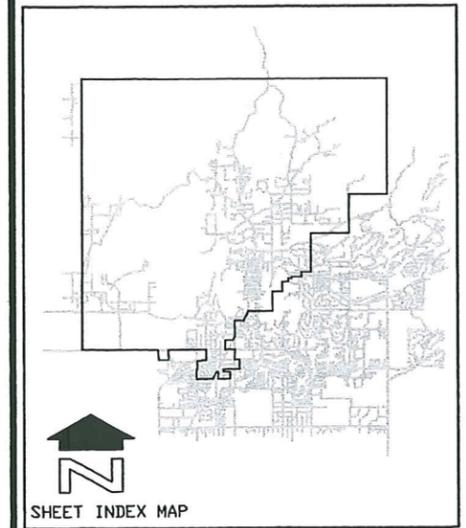
LABEL	LAND USE
DESERT	OPEN SPACE
CC REC	DESERT
OSR	
DR-190	
DR-89	VLDR
DR-70	
DR-43	
R-35	LDR
R-18	
MR-8	MDR
MR-14	
MR-21	MFR
MR-43	
CB	
CC	C
GC	

1500' 0' 1500' 3000'
 SCALE: 1" = 1500 FEET
 CONTOUR INTERVAL = 10'
 COOPER AERIAL SURVEY'S COMPANY
 FLIGHT DATES: November 2003
 through December 2005



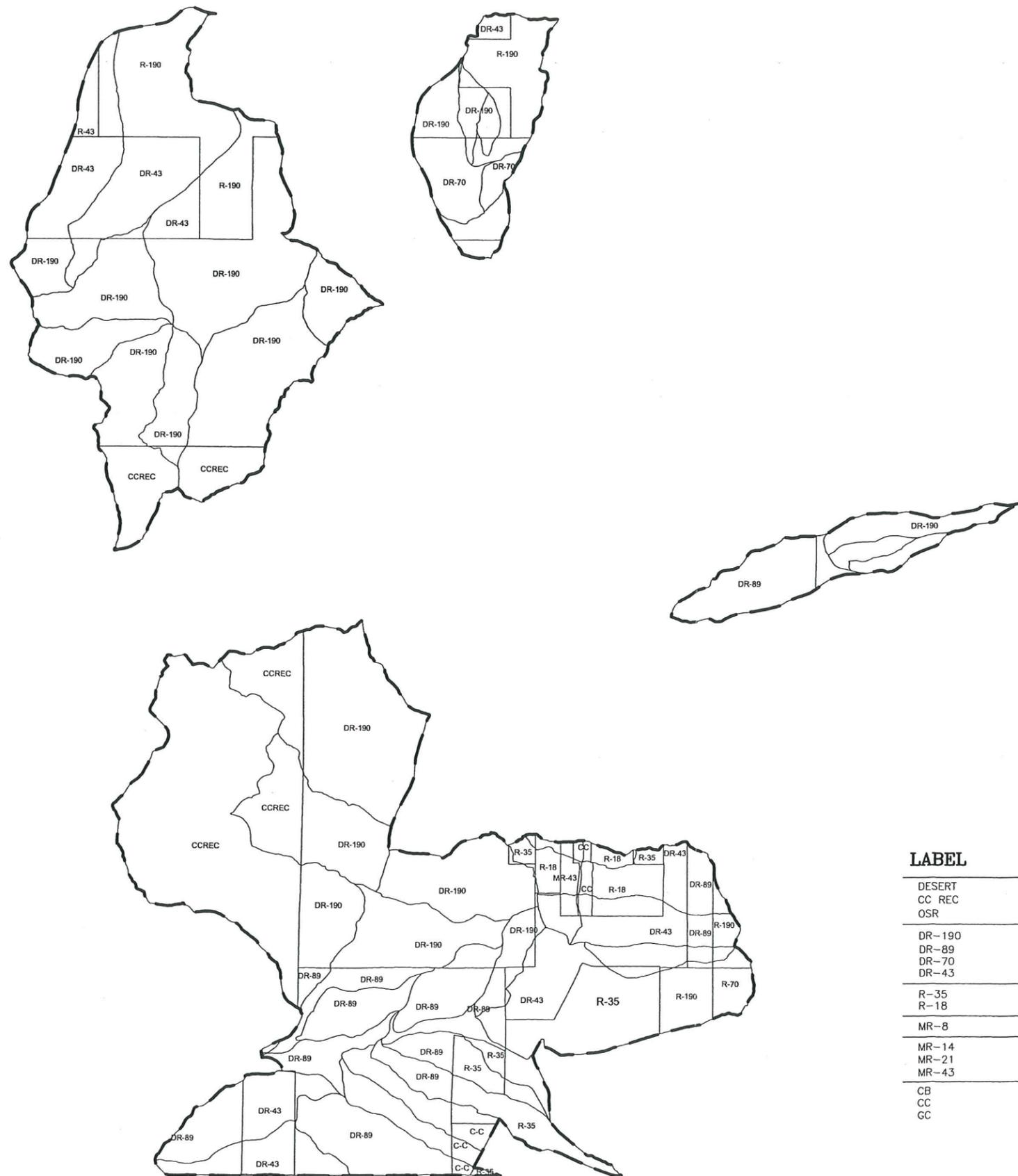
LEGEND

- NEW HYDROLOGY BOUNDARY
- LAND USE CODE DR-190



NO.	REVISION	BY	DATE										
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY													
CAVE CREEK DRAINAGE MASTER PLAN PROJECT CONTROL NUMBER: 690.02.20 CONTRACT NUMBER: FCD 2004C072													
LAND USE (EXISTING)													
HDR ENGINEERING, INC. 3200 East Camelback Road, Suite 350 PHOENIX, ARIZONA 85018-2311 (602) 522-7700													
PRELIMINARY NOT FOR CONSTRUCTION		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>D. MARTINEZ</td> <td>05/18/07</td> </tr> <tr> <td>L. POTTER</td> <td>05/18/07</td> </tr> <tr> <td>D. MARTINEZ</td> <td>05/18/07</td> </tr> <tr> <td>M. FOUNTAIN</td> <td>05/18/07</td> </tr> </tbody> </table>		BY	DATE	D. MARTINEZ	05/18/07	L. POTTER	05/18/07	D. MARTINEZ	05/18/07	M. FOUNTAIN	05/18/07
BY	DATE												
D. MARTINEZ	05/18/07												
L. POTTER	05/18/07												
D. MARTINEZ	05/18/07												
M. FOUNTAIN	05/18/07												
SHEET 4													

C:\P\Wu...ing\PHX\potter\dms45387\Figure_05.dwg, Layout2, 7/26/2007 2:40:43 PM, ipotter



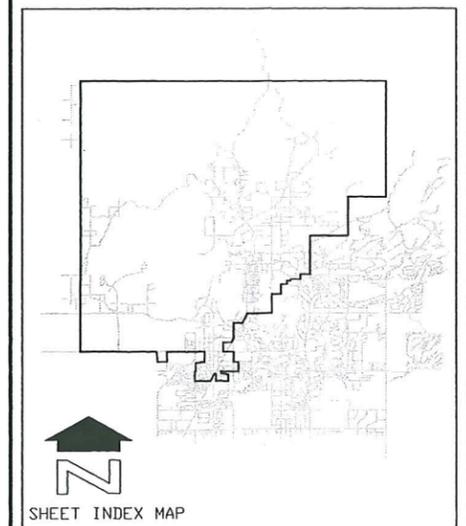
LABEL	LAND USE
DESERT	OPEN SPACE
CC REC	DESERT
OSR	
DR-190	VLDR
DR-89	
DR-70	
DR-43	
R-35	LDR
R-18	
MR-8	MDR
MR-14	
MR-21	MFR
MR-43	
CB	
CC	C
CC	

1500' 0' 1500' 3000'
SCALE: 1" = 1500 FEET



LEGEND

- NEW HYDROLOGY BOUNDARY
- LAND USE CODE



NO.	REVISION	BY	DATE
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

LAND USE (FUTURE)

PRELIMINARY NOT FOR CONSTRUCTION	HDR ENGINEERING, INC.	
	3200 East Camelback Road, Suite 350 PHOENIX, ARIZONA 85018-2311 (602) 522-7700	
	BY	DATE
	DESIGN	D. MARTINEZ 05/18/07
	DESIGN CHK.	L. POTTER 05/18/07
PLANS	D. MARTINEZ 05/18/07	
PLANS CHK.	M. FOUNTAIN 05/18/07	

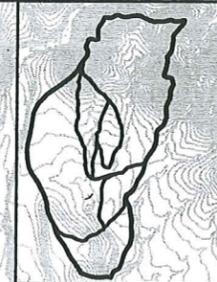
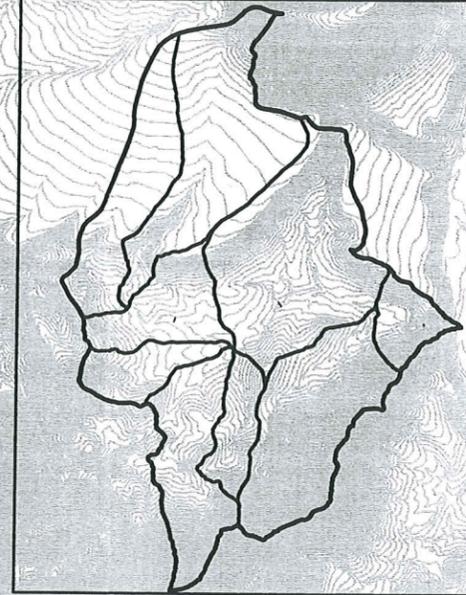
C:\pwworking\PHX\ipotter\dms45387\Figure_06.dwg, Layout2, 7/26/2007 3:10:27 PM, ipotter

LEGEND

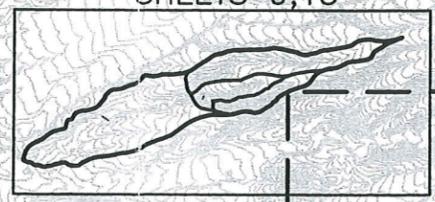
- DMP BOUNDARY 
- NEW HYDROLOGY 

SHEETS 7,11

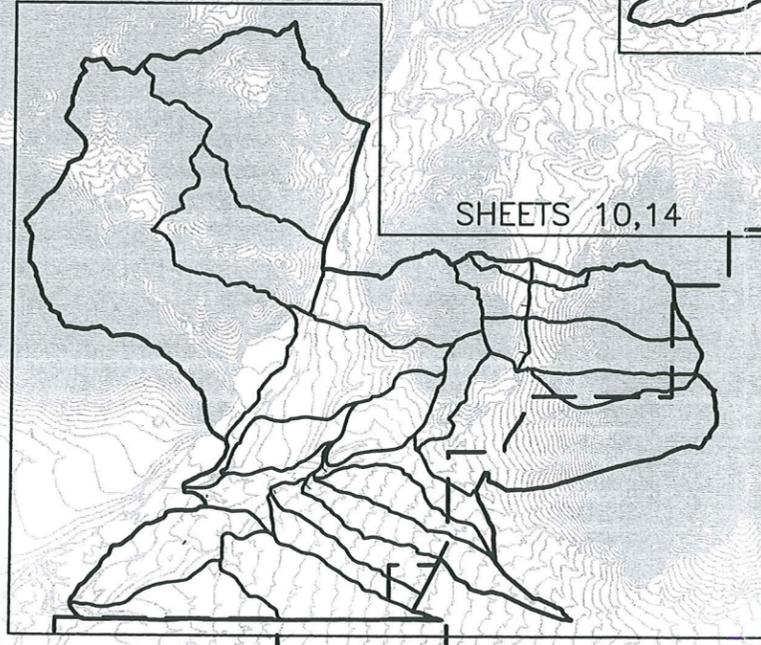
SHEETS 8,12



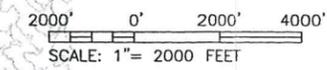
SHEETS 9,13



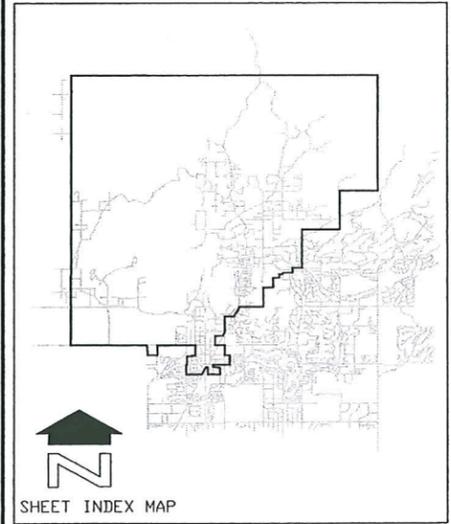
SHEETS 10,14



CAVE CREEK DRAINAGE MASTER PLAN STUDY LIMIT



SCALE: 1" = 2000 FEET
CONTOUR INTERVAL = 10'
COOPER AERIAL SURVEY'S COMPANY
FLIGHT DATES: November 2003 through December 2005



NO.	REVISION	BY	DATE
2			
1			

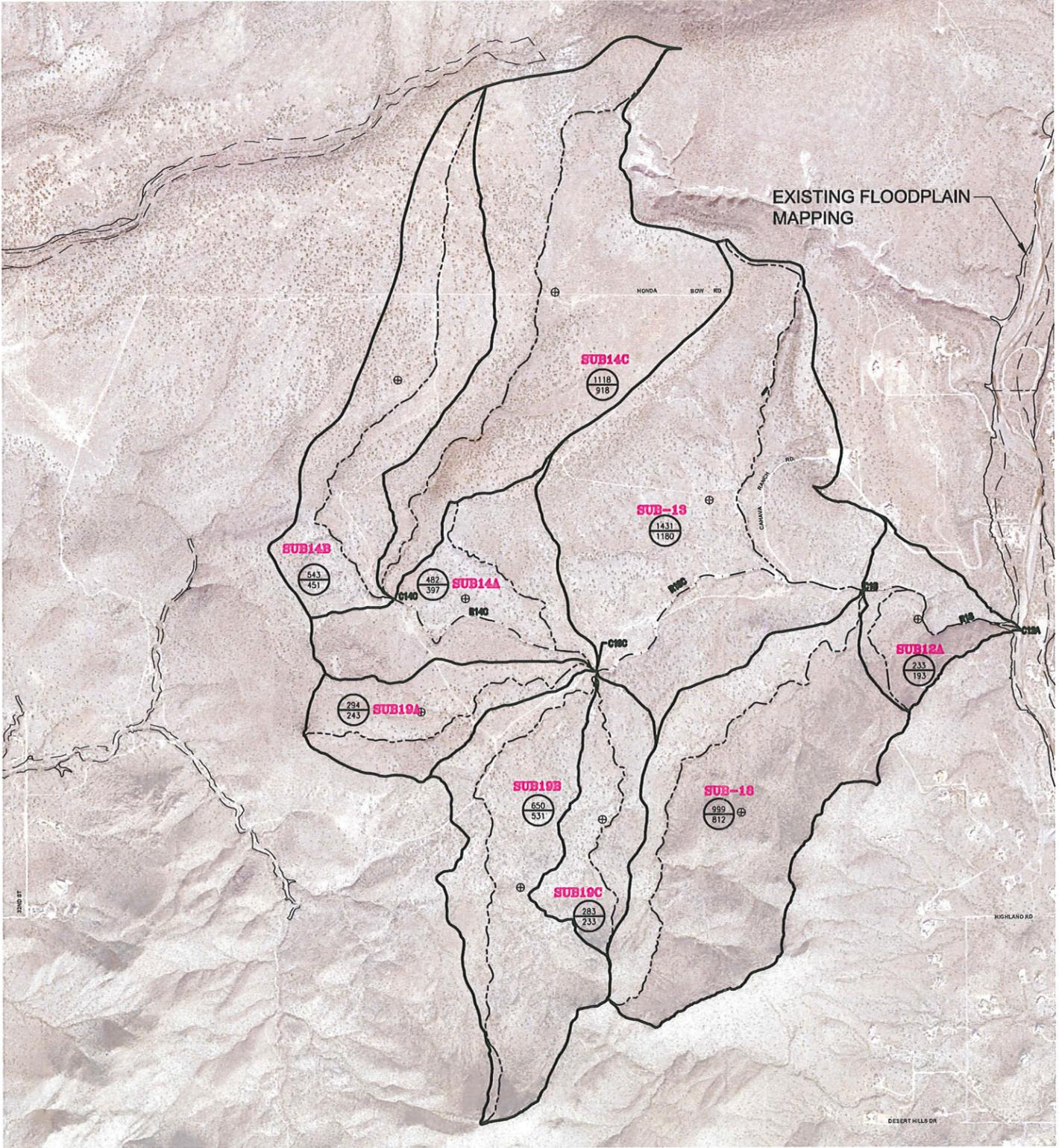
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

SHEET INDEX

HDR ENGINEERING, INC.		3200 East Camelback Road, Suite 350 PHOENIX, ARIZONA 85018-2311 (602) 522-7700	
DESIGN	BY	DATE	
DESIGN	D. MARTINEZ	05/18/07	
DESIGN CHK.	L. POTTER	05/18/07	
PLANS	D. MARTINEZ	05/18/07	
PLANS CHK.	M. FOUNTAIN	05/18/07	

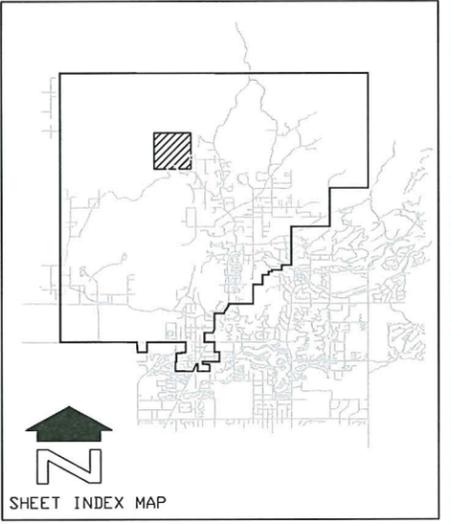
PRELIMINARY NOT FOR CONSTRUCTION



Concentration Point	100-yr, 6-hr	100-yr, 24-hr
	Flow (cfs)	Flow (cfs)
	Exist Cond	Exist Cond
C12A	3198	3699
C14C	1509	1355
C18	3129	3640
C19C	2344	2437

LEGEND

- CENTROID
- To REACH
- ROUTING REACH
- NEW HYDROLOGIC SUBBASIN
- HYDROLOGIC SUBBASIN NAME
- CONCENTRATION POINT

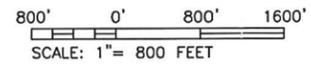


NO.	REVISION	BY	DATE
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
 PROJECT CONTROL NUMBER: 690.02.20
 CONTRACT NUMBER: FCD 2004C072

SUB-BASIN IDENTIFICATION



CONTOUR INTERVAL = 10'
 COOPER AERIAL SURVEY'S COMPANY
 FLIGHT DATES: November 2003
 through December 2005

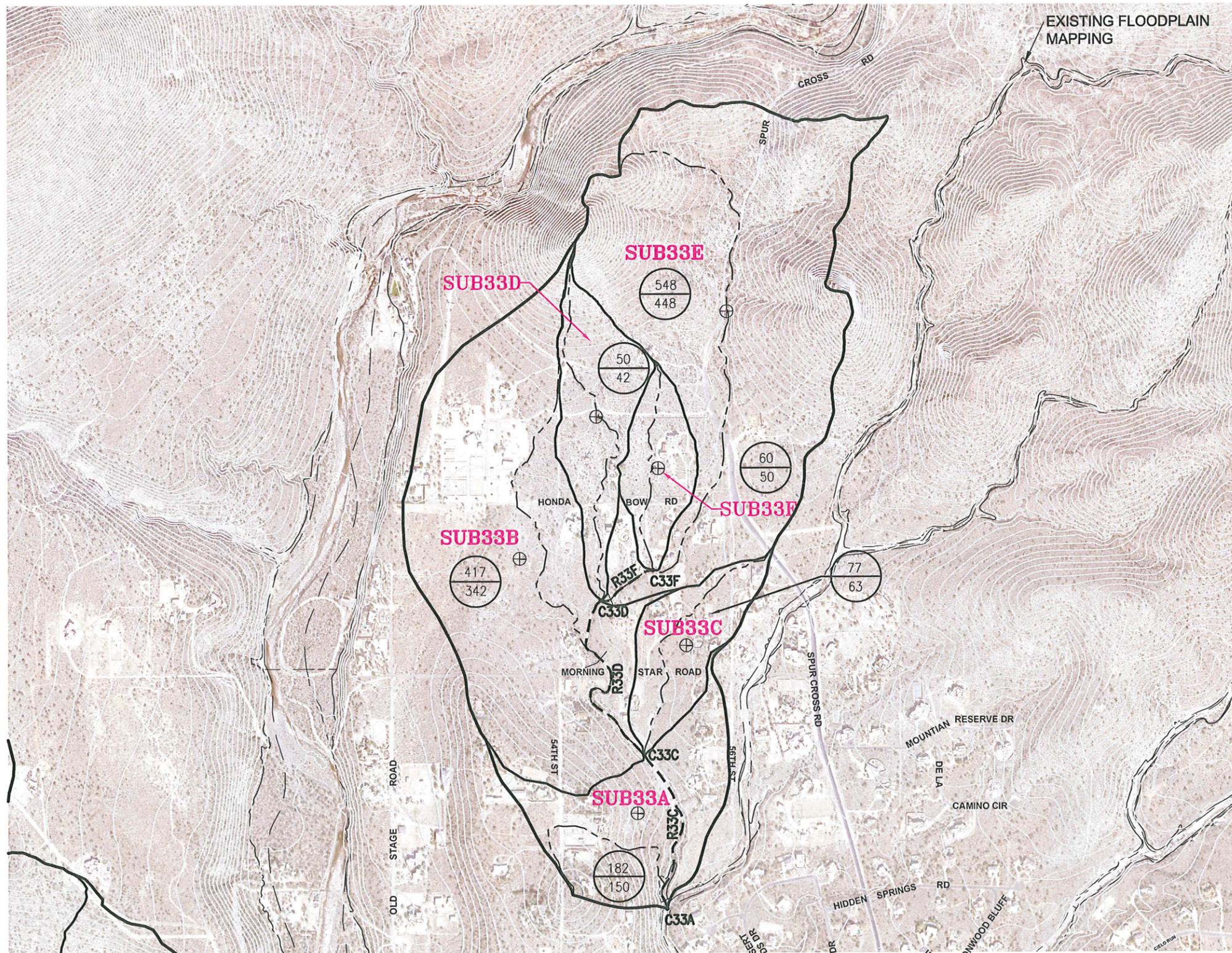


35571
LINDA A. POTTER
Professional Engineer
State of Arizona

HDR ENGINEERING, INC.
 3200 East Camelback Road, Suite 350
 PHOENIX, ARIZONA 85018-2311
 (602) 522-7700

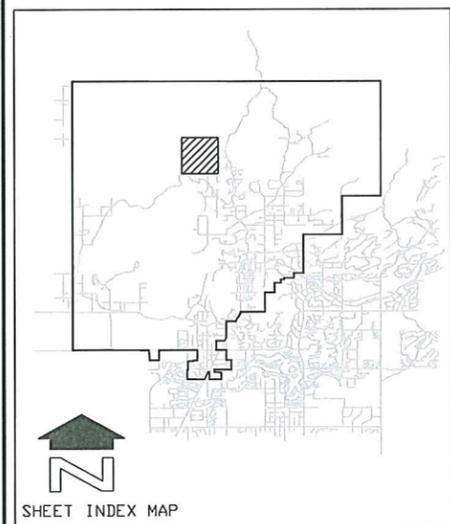
BY	DATE
DESIGN	D. MARTINEZ 05/18/07
DESIGN CHK.	L. POTTER 05/18/07
PLANS	D. MARTINEZ 05/18/07
PLANS CHK.	M. FOUNTAIN 05/18/07

SHEET 7

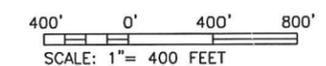


LEGEND

- CENTROID
- Tc REACH
- ROUTING REACH
- NEW HYDROLOGIC SUBBASIN
- HYDROLOGIC SUBBASIN NAME
- CONCENTRATION POINT



Concentration Point	100-yr, 6-hr Flow (cfs) Exist Cond	100-yr, 24-hr Flow (cfs) Exist Cond
C33A	1182	969
C33C	1092	892
C33D	643	526
C33F	606	495



CONTOUR INTERVAL = 10'
 COOPER AERIAL SURVEY'S COMPANY
 FLIGHT DATES: November 2003
 through December 2005

2
1
NO. REVISION BY DATE

**FLOOD CONTROL DISTRICT
 OF MARICOPA COUNTY**

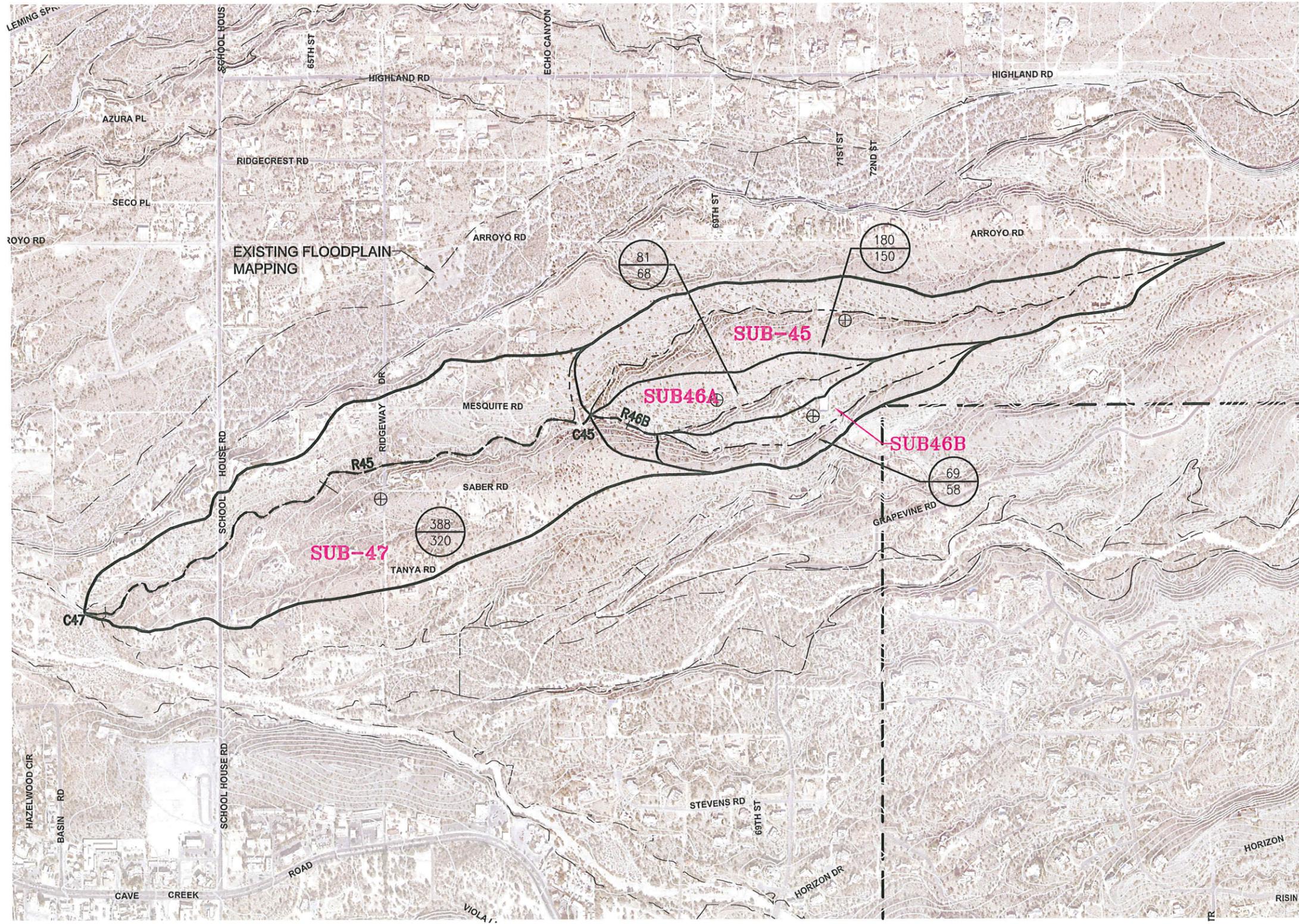
CAVE CREEK DRAINAGE MASTER PLAN
 PROJECT CONTROL NUMBER: 690.02.20
 CONTRACT NUMBER: FCD 2004C072

SUB-BASIN IDENTIFICATION

HDR ENGINEERING, INC.
 3200 East Camelback Road, Suite 350
 PHOENIX, ARIZONA 85018-2311
 (602) 522-7700

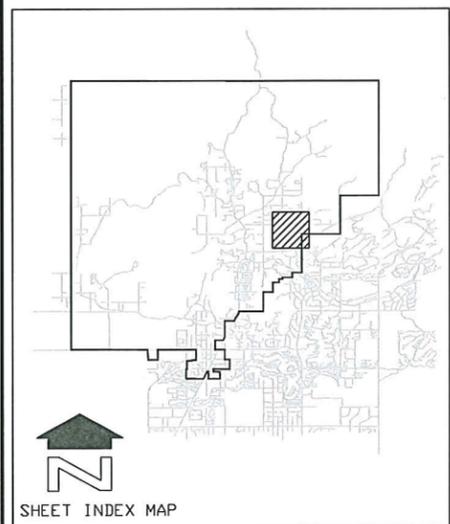
BY	DATE
DESIGN	D. MARTINEZ 05/18/07
DESIGN CHK.	L. POTTER 05/18/07
PLANS	D. MARTINEZ 05/18/07
PLANS CHK.	M. FOUNTAIN 05/18/07

SHEET 8

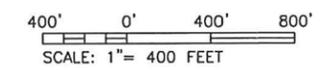


LEGEND

- CENTROID
- Tc REACH
- ROUTING REACH
- NEW HYDROLOGIC SUBBASIN
- HYDROLOGIC SUBBASIN NAME
- CONCENTRATION POINT



Concentration Point	100-yr, 6-hr	100-yr, 24-hr
	Flow (cfs)	Flow (cfs)
C45	320	266
C47	579	467



CONTOUR INTERVAL = 10'
 COOPER AERIAL SURVEY'S COMPANY
 FLIGHT DATES: November 2003
 through December 2005

2			
1	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

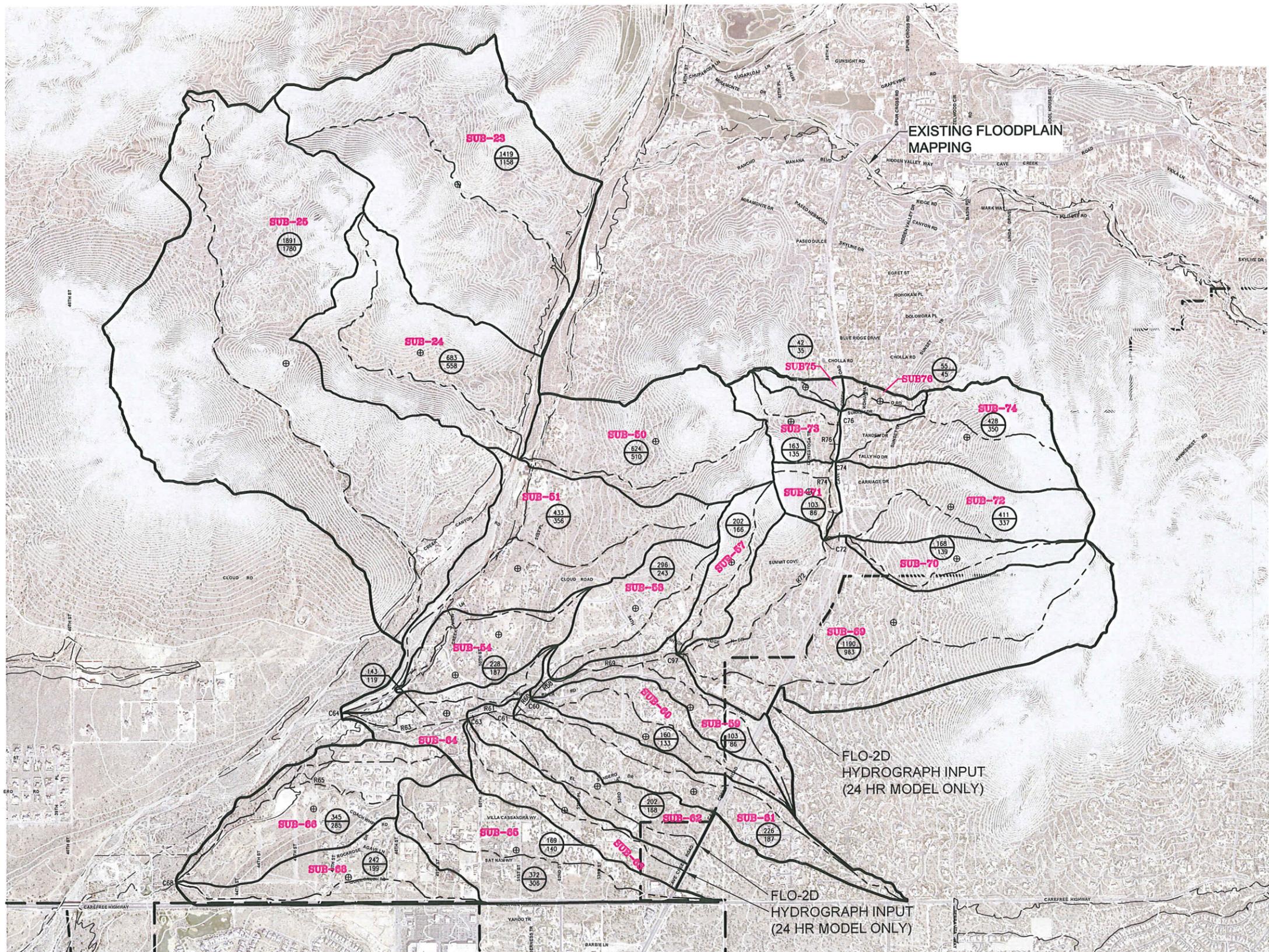
CAVE CREEK DRAINAGE MASTER PLAN
 PROJECT CONTROL NUMBER: 690.02.20
 CONTRACT NUMBER: FCD 2004C072

SUB-BASIN IDENTIFICATION

HDR ENGINEERING, INC.
 3200 East Camelback Road, Suite 350
 PHOENIX, ARIZONA 85018-2311
 (602) 522-7700

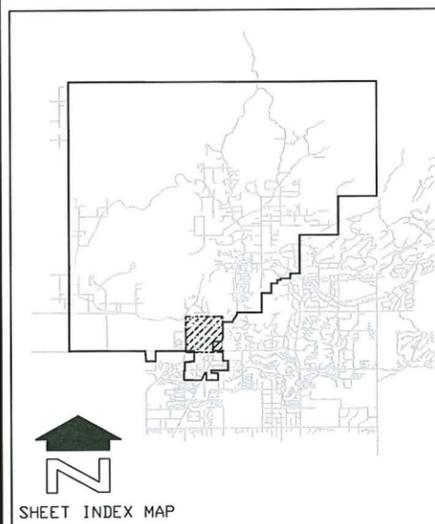
	BY	DATE
DESIGN	D. MARTINEZ	05/18/07
DESIGN CHK.	L. POTTER	05/18/07
PLANS	D. MARTINEZ	05/18/07
PLANS CHK.	M. FOUNTAIN	05/18/07

SHEET 9



LEGEND

- CENTROID
- Tc REACH
- ROUTING REACH
- NEW HYDROLOGIC SUBBASIN
- HYDROLOGIC SUBBASIN NAME
- CONCENTRATION POINT



2			
1	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
 PROJECT CONTROL NUMBER: 690.02.20
 CONTRACT NUMBER: FCD 2004C072

SUB-BASIN IDENTIFICATION

	HDR ENGINEERING, INC. 3200 East Camelback Road, Suite 350 PHOENIX, ARIZONA 85018-2311 (602) 522-7700		
	BY	DATE	
	DESIGN	D. MARTINEZ	05/18/07
	DESIGN CHK.	L. POTTER	05/18/07
	PLANS	D. MARTINEZ	05/18/07
PLANS CHK.	M. FOUNTAIN	05/18/07	
SHEET 10			

Concentration Point	100-yr, 6-hr Flow (cfs)	100-yr, 24-hr Flow (cfs)	Concentration Point	100-yr, 6-hr Flow (cfs)	100-yr, 24-hr Flow (cfs)
C57	2085	2985	C64	2611	3829
C60	2272	3251	C68	873	778
C61	2376	3431	C72	1315	1072
C63	2557	3744	C74	680	554
			C76	97	80

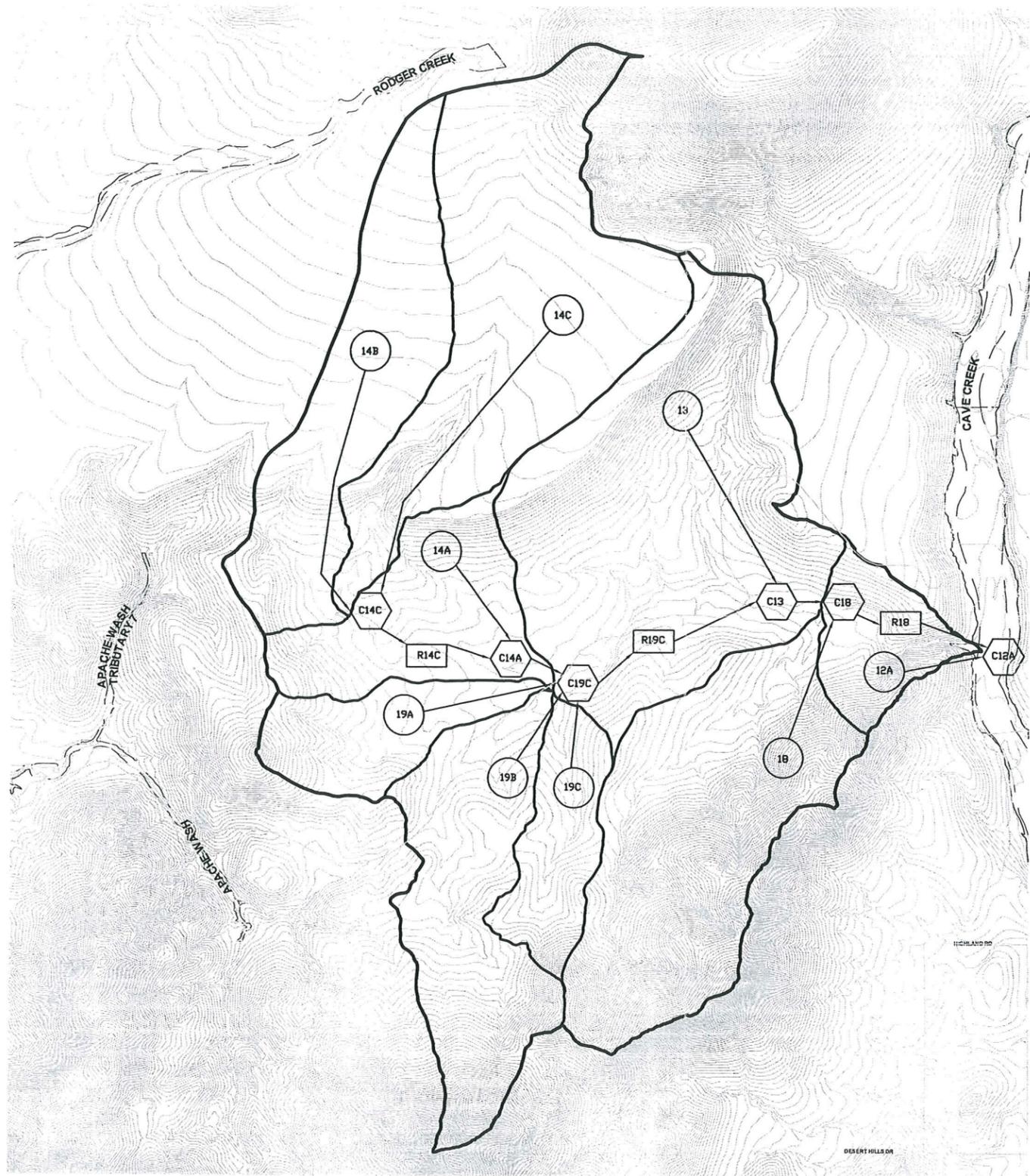
* NOTE: 6-HR FLOWS NOT VALID @ CONCENTRATION POINTS (MISSING UCT HYDROGRAPH INPUT FOR 6-HR MODEL ONLY).

800' 0' 800' 1600'

SCALE: 1" = 800 FEET

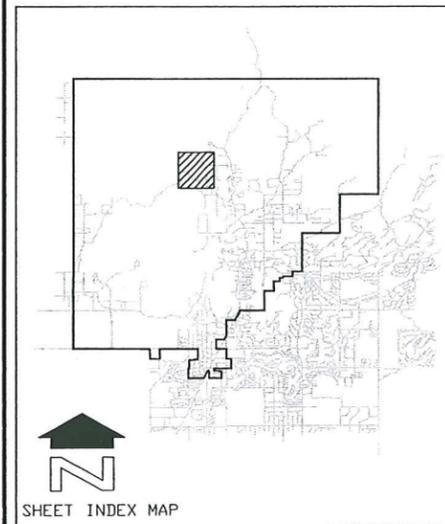
CONTOUR INTERVAL = 10'

COOPER AERIAL SURVEY'S COMPANY
 FLIGHT DATES: November 2003 through December 2005



LEGEND

- NEW HYDROLOGY 
- SUBBASIN 
- CONCENTRATION POINT 
- ROUTING 

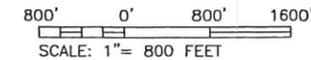


NO.	REVISION	BY	DATE
2			
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

HEC-1 SCHEMATIC



CONTOUR INTERVAL = 10'
 COOPER AERIAL SURVEY'S COMPANY
 FLIGHT DATES: November 2003
 through December 2005

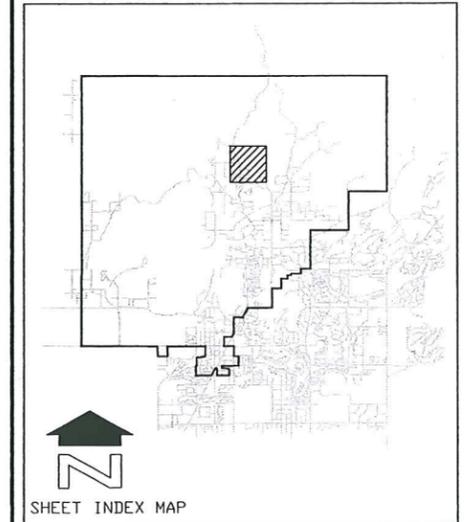
PRELIMINARY NOT FOR CONSTRUCTION	HDR ENGINEERING, INC.	
	BY	DATE
DESIGN	D. MARTINEZ	05/18/07
DESIGN CHK.	L. POTTER	05/18/07
PLANS	D. MARTINEZ	05/18/07
PLANS CHK.	M. FOUNTAIN	05/18/07

C:\P\Ww...g\PH\X\potter\dms45387\Figure_12.dwg, Layout2, 7/26/2007 2:53:22 PM, lpotter



LEGEND

- NEW HYDROLOGY 
- SUBBASIN 
- CONCENTRATION POINT 
- ROUTING 

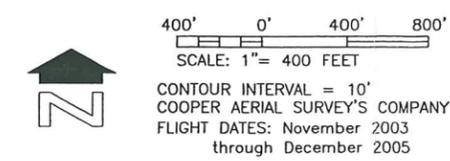


NO.	REVISION	BY	DATE
2			
1			

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

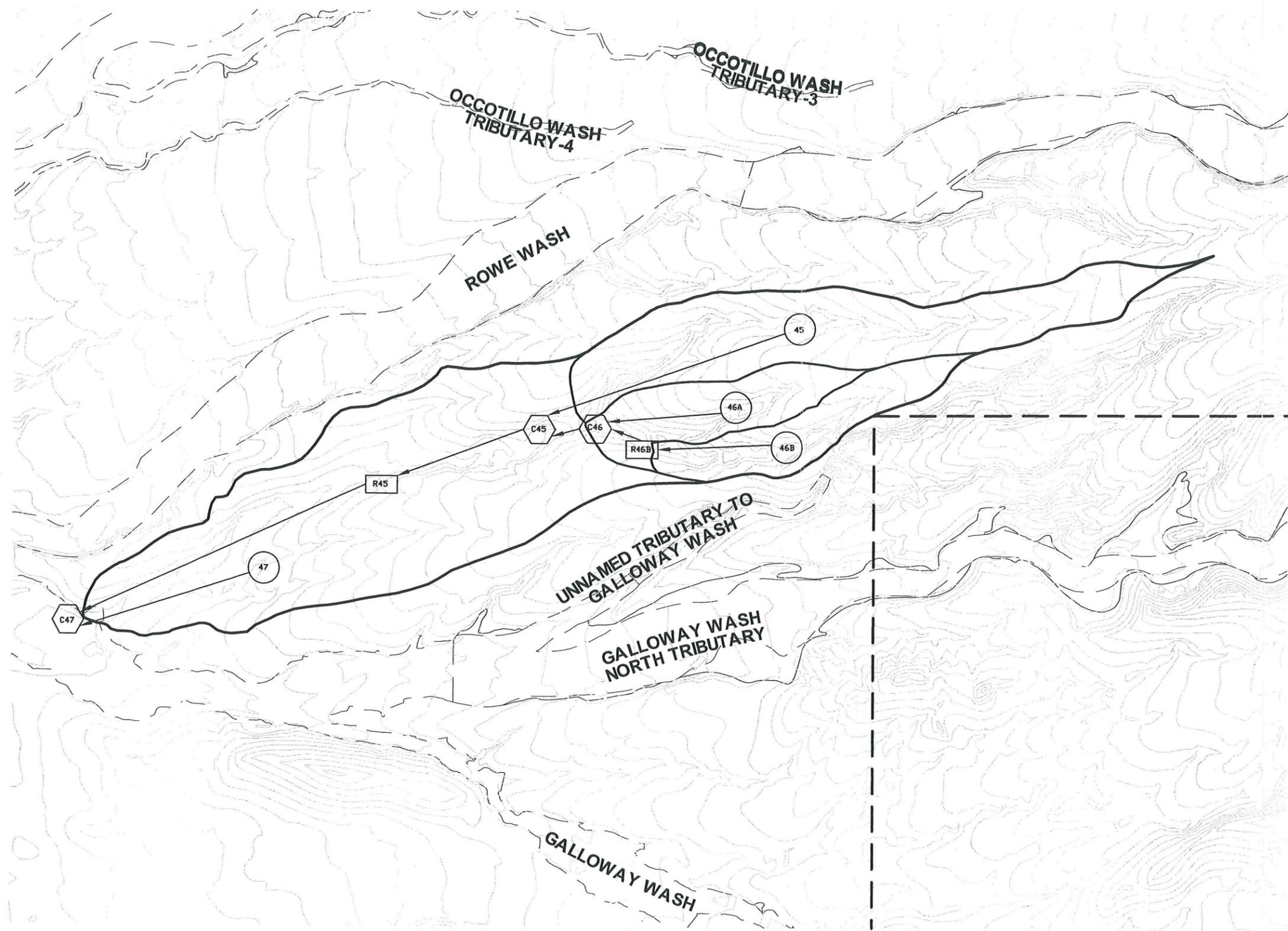
CAVE CREEK DRAINAGE MASTER PLAN
PROJECT CONTROL NUMBER: 690.02.20
CONTRACT NUMBER: FCD 2004C072

HEC-1 SCHEMATIC



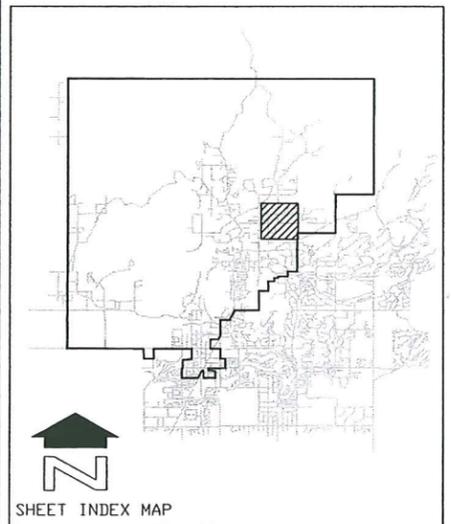
PRELIMINARY NOT FOR CONSTRUCTION	HDR ENGINEERING, INC.	
	BY	DATE
DESIGN	D. MARTINEZ	05/18/07
DESIGN CHK.	L. POTTER	05/18/07
PLANS	D. MARTINEZ	05/18/07
PLANS CHK.	M. FOUNTAIN	05/18/07

C:\PWW\g\PHX\ipotter\dms45387\Figure_13.dwg, Layout2, 7/26/2007 2:54:59 PM, ipotter



LEGEND

- DMP BOUNDARY 
- NEW HYDROLOGY 
- SUBBASIN 
- CONCENTRATION POINT 
- ROUTING 



2			
NO.	REVISION	BY	DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK DRAINAGE MASTER PLAN
 PROJECT CONTROL NUMBER: 690.02.20
 CONTRACT NUMBER: FCD 2004C072

HEC-1 SCHEMATIC

400' 0' 400' 800'

SCALE: 1" = 400 FEET

CONTOUR INTERVAL = 10'

COOPER AERIAL SURVEY'S COMPANY

FLIGHT DATES: November 2003 through December 2005



PRELIMINARY NOT FOR CONSTRUCTION	HDR ENGINEERING, INC. 3200 East Camelback Road, Suite 350 PHOENIX, ARIZONA 85018-2311 (602) 522-7700		
	BY	DATE	
	DESIGN	D. MARTINEZ	05/18/07
	DESIGN CHK.	L. POTTER	05/18/07
	PLANS	D. MARTINEZ	05/18/07
PLANS CHK.	M. FOUNTAIN	05/18/07	
SHEET 13			


```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 20JUL07 TIME 06:28:59
*
*****

```

```

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

```

```

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

```

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE. THE DEFINITION OF -AMSK- 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   Project ID: 40933-EWEST6HR - Major Basin: 01 - Return Period: 100 Years
2         ID
3         ID   CAVECREEK DRAINAGE MASTER PLAN
4         ID   HYDROLOGY OF UNDELINEATED AREAS WEST OF CAVE CREEK.
5         ID   FCD CONTRACT #2004C072
6         ID   PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
7         ID   PREPARED BY HDR ENGINEERING-JULY 2007
8         ID   FILE NAME: EW100-6.DAT
9         ID
10        ID   *****
11        ID   100-YEAR, 6-HOUR STORM EVENT
12        ID   MULTIPLE STORM EVENT
13        ID   GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
14        ID   EXISTING LAND USE FROM AERIAL PHOTOGRAPHY
15        ID   *****
16        ID
17        ID
18        ID
19        *DIAGRAM
20        IT      2
21        IO      3
22        IN      15
23        JD      3.40      0.01
24        PC      0.000      0.008      0.016      0.025      0.033      0.041      0.050      0.058      0.066      0.074
25        PC      0.087      0.099      0.118      0.138      0.216      0.377      0.834      0.911      0.931      0.950
26        JD      3.378      0.50
27        PC      0.000      0.008      0.016      0.025      0.033      0.041      0.050      0.058      0.066      0.074
28        PC      0.087      0.099      0.118      0.138      0.216      0.377      0.834      0.911      0.931      0.950
29        PC      0.962      0.972      0.983      0.991      1.000
30        JD      3.314      2.80
31        PC      0.000      0.009      0.016      0.025      0.034      0.042      0.051      0.059      0.067      0.076
32        PC      0.087      0.100      0.120      0.163      0.252      0.451      0.694      0.837      0.900      0.938
33        PC      0.950      0.963      0.975      0.988      1.000
34        JD      3.135      16.0
35        PC      0.000      0.015      0.020      0.030      0.048      0.063      0.076      0.090      0.105      0.119
36        PC      0.135      0.152      0.175      0.222      0.304      0.472      0.670      0.796      0.868      0.912
37        PC      0.946      0.960      0.973      0.987      1.000
38        JD      2.761      90.0
39        PC      0.000      0.021      0.035      0.051      0.071      0.087      0.105      0.125      0.143      0.160
40        PC      0.179      0.201      0.232      0.281      0.364      0.500      0.658      0.773      0.841      0.888
41        PC      0.927      0.945      0.964      0.982      1.000
42        JD      1.938      500.0
43        PC      0.000      0.024      0.043      0.059      0.078      0.098      0.119      0.141      0.162      0.186
44        PC      0.212      0.239      0.271      0.321      0.408      0.515      0.627      0.735      0.814      0.864
45        PC      0.907      0.930      0.954      0.977      1.000
46        KK   SUB-23   BASIN
47        BA   0.523
48        LG   0.31      0.20      7.00      0.11      32
49        UC   0.292      0.187
50        UA   0          3.0          5.0          8.0          12.0          20.0          43.0          75.0          90.0          96.0
51        UA   100

```

LINE	ID	1	2	3	4	5	6	7	8	9	10
52	KK	SUB-24	BASIN								
53	BA	0.267									
54	LG	0.35	0.24	7.00	0.12	28					
55	UC	0.263	0.218								
56	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
57	UA	100									
58	KK	SUB-25	BASIN								
59	BA	0.937									
60	LG	0.35	0.35	7.00	0.12	28					
61	UC	0.363	0.236								
62	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
63	UA	100									
64	ZZ										

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE	(V) ROUTING	(--->) DIVERSION OR PUMP FLOW
NO.	(.) CONNECTOR	(<---) RETURN OF DIVERTED OR PUMPED FLOW
46	SUB-23	
52	.	SUB-24
58	.	SUB-25

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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
					6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT	SUB-23	1419.	4.17	140.	35.	13.	.52		
+	HYDROGRAPH AT	SUB-24	683.	4.13	68.	17.	6.	.27		
+	HYDROGRAPH AT	SUB-25	1891.	4.20	225.	56.	20.	.94		

*** NORMAL END OF HEC-1 ***

```

*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 20JUL07 TIME 06:30:17
*
*****

```

```

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

```

```

X   X  XXXXXXXX  XXXXX      X
X   X  X        X   X      XX
X   X  X        X   X      X
XXXXXXX XXXX   X        XXXXX X
X   X  X        X   X      X
X   X  X        X   X      X
X   X  XXXXXXXX  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 -AMSK- 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   Project ID: 40933-EWEST24HR - Major Basin: 01 - Return Period: 100 Years
2         ID
3         ID   CAVECREEK DRAINAGE MASTER PLAN
4         ID   HYDROLOGY OF UNDELINEATED AREAS WEST OF CAVE CREEK.
5         ID   FCD CONTRACT #2004C072
6         ID   PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
7         ID   PREPARED BY HDR ENGINEERING-JULY 2007
8         ID   FILE NAME: EW100-24.DAT
9         ID
10        ID   *****
11        ID   100-YEAR, 24-HOUR STORM EVENT
12        ID   MULTIPLE STORM EVENT
13        ID   GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
14        ID   EXISTING LAND USE FROM AERIAL PHOTOGRAPHY
15        ID   *****
16        ID
17        ID
18        ID
19        IT   2
20        IO   3
21        IN   15
22        JD   4.60   0.01
23        PC   0.000  0.002  0.005  0.008  0.011  0.014  0.017  0.020  0.023  0.026
24        PC   0.029  0.032  0.035  0.038  0.041  0.044  0.048  0.052  0.056  0.060
25        PC   0.064  0.068  0.072  0.076  0.080  0.085  0.090  0.095  0.100  0.105
26        PC   0.110  0.115  0.120  0.126  0.133  0.140  0.147  0.155  0.163  0.172
27        PC   0.181  0.191  0.203  0.218  0.236  0.257  0.283  0.387  0.663  0.707
28        PC   0.735  0.758  0.776  0.791  0.804  0.815  0.825  0.834  0.842  0.849
29        PC   0.856  0.863  0.869  0.875  0.881  0.887  0.893  0.898  0.903  0.908
30        PC   0.913  0.918  0.922  0.926  0.930  0.934  0.938  0.942  0.946  0.950
31        PC   0.953  0.956  0.959  0.962  0.965  0.968  0.971  0.974  0.977  0.980
32        PC   0.983  0.986  0.989  0.992  0.995  0.998  1.000
33        JD   4.324  10.00
34        JD   4.140  30.00
35        JD   3.956  60.00
36        JD   3.892  90.00
37        JD   3.836  120.00
38        JD   3.795  150.00
39        JD   3.680  300.00
40        JD   3.588  500.00

41        KK   SUB-23  BASIN
42        BA   0.523
43        LG   0.31   0.20   7.00   0.11   32
44        UC   0.292  0.187
45        UA   0     3.0   5.0   8.0   12.0  20.0  43.0  75.0  90.0  96.0
46        UA   100

47        KK   SUB-24  BASIN
48        BA   0.267
49        LG   0.35   0.24   7.00   0.12   28
50        UC   0.263  0.218
51        UA   0     3.0   5.0   8.0   12.0  20.0  43.0  75.0  90.0  96.0

```

1

52 UA 100

HEC-1 INPUT

LINE	ID	1	2	3	4	5	6	7	8	9	10
53	KK	SUB-25	BASIN								
54	BA	0.937									
55	LG	0.35	0.35	7.00	0.12	28					
56	UC	0.363	0.236								
57	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
58	UA	100									
59	ZZ										

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE NO.	(V) ROUTING	(--->) DIVERSION OR PUMP FLOW
	(.) CONNECTOR	(<---) RETURN OF DIVERTED OR PUMPED FLOW
41	SUB-23	
47	SUB-24	
53	SUB-25	

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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
					6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT	SUB-23	1158.	12.17	128.	38.	14.	.52		
+	HYDROGRAPH AT	SUB-24	558.	12.13	62.	18.	7.	.27		
+	HYDROGRAPH AT	SUB-25	1780.	12.20	205.	60.	22.	.94		

*** NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
*   JUN 1998 *
*   VERSION 4.1 *
*
* RUN DATE 20JUL07 TIME 07:56:12 *
*
*****

```

```

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

```

```

X X XXXXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXXXX XXXX X XXXXX X
X X X X X X
X X X X X X
X X XXXXXXXX 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 Project ID: 40933-FWEST6HR - Major Basin: 01 - Return Period: 100 Years
2 ID
3 ID CAVECREEK DRAINAGE MASTER PLAN
4 ID HYDROLOGY OF UNDELINEATED AREAS WEST OF CAVE CREEK.
5 ID FCD CONTRACT #2004C072
6 ID PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
7 ID PREPARED BY HDR ENGINEERING-JULY 2007
8 ID FILE NAME: FW100-6.DAT
9 ID
10 ID *****
11 ID 100-YEAR, 6-HOUR STORM EVENT
12 ID MULTIPLE STORM EVENT
13 ID GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
14 ID FUTURE LAND USE FROM ZONING MAP
15 ID *****
16 ID
17 ID
18 ID
19 ID *DIAGRAM
IT 2 2000
20 IO 3
21 IN 15
22 JD 3.40 0.01
23 PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
24 PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
25 PC 0.962 0.972 0.983 0.991 1.000
26 JD 3.378 0.50
27 PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
28 PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
29 PC 0.962 0.972 0.983 0.991 1.000
30 JD 3.314 2.80
31 PC 0.000 0.009 0.016 0.025 0.034 0.042 0.051 0.059 0.067 0.076
32 PC 0.087 0.100 0.120 0.163 0.252 0.451 0.694 0.837 0.900 0.938
33 PC 0.950 0.963 0.975 0.988 1.000
34 JD 3.135 16.0
35 PC 0.000 0.015 0.020 0.030 0.048 0.063 0.076 0.090 0.105 0.119
36 PC 0.135 0.152 0.175 0.222 0.304 0.472 0.670 0.796 0.868 0.912
37 PC 0.946 0.960 0.973 0.987 1.000
38 JD 2.761 90.0
39 PC 0.000 0.021 0.035 0.051 0.071 0.087 0.105 0.125 0.143 0.160
40 PC 0.179 0.201 0.232 0.281 0.364 0.500 0.658 0.773 0.841 0.888
41 PC 0.927 0.945 0.964 0.982 1.000
42 JD 1.938 500.0
43 PC 0.000 0.024 0.043 0.059 0.078 0.098 0.119 0.141 0.162 0.186
44 PC 0.212 0.239 0.271 0.321 0.408 0.515 0.627 0.735 0.814 0.864
45 PC 0.907 0.930 0.954 0.977 1.000
46 KK SUB-23 BASIN
47 BA 0.523
48 LG 0.31 0.20 7.00 0.11 32
49 UC 0.283 0.181
50 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
51 UA 100

```

LINE	ID	1	2	3	4	5	6	7	8	9	10
52	KK	SUB-24	BASIN								
53	BA	0.267									
54	LG	0.32	0.24	7.00	0.11	31					
55	UC	0.246	0.203								
56	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
57	UA	100									
58	KK	SUB-25	BASIN								
59	BA	0.937									
60	LG	0.34	0.35	7.00	0.12	28					
61	UC	0.383	0.252								
62	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
63	UA	100									
64	ZZ										

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE	(V) ROUTING	(--->) DIVERSION OR PUMP FLOW
NO.	(.) CONNECTOR	(<---) RETURN OF DIVERTED OR PUMPED FLOW
46	SUB-23	
52	SUB-24	
58	SUB-25	

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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT								
+	HYDROGRAPH AT	SUB-23	1435.	4.17	140.	35.	13.	.52	
+	HYDROGRAPH AT	SUB-24	718.	4.13	70.	18.	6.	.27	
+	HYDROGRAPH AT	SUB-25	1844.	4.23	225.	56.	20.	.94	

*** NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 20JUL07 TIME 07:56:58
*
*****

```

```

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

```

```

X   X XXXXXXX XXXXX      X
X   X X      X   X      XX
X   X X      X           X
XXXXXXXX XXXX   X       XXXXX X
X   X X      X           X
X   X X      X   X      X
X   X XXXXXXX XXXXX      XXXX

```

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 -AMSK- 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	Project ID: 40933-FWEST24HR - Major Basin: 01 - Return Period: 100 Years									
2	ID										
3	ID	CAVECREEK DRAINAGE MASTER PLAN									
4	ID	HYDROLOGY OF UNDELINEATED AREAS WEST OF CAVE CREEK.									
5	ID	FCD CONTRACT #2004C072									
6	ID	PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY									
7	ID	PREPARED BY HDR ENGINEERING-JULY 2007									
8	ID	FILE NAME: FW100-24.DAT									
9	ID										
10	ID	*****									
11	ID	100-YEAR, 24-HOUR STORM EVENT									
12	ID	MULTIPLE STORM EVENT									
13	ID	GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH									
14	ID	FUTURE LAND USE FROM ZONING MAP									
15	ID	*****									
16	ID										
17	ID										
18	ID										
19	ID	*DIAGRAM									
20	IT	2									
21	IO	3									
22	IN	15									
23	JD	4.60	0.01								
24	PC	0.000	0.002	0.005	0.008	0.011	0.014	0.017	0.020	0.023	0.026
25	PC	0.029	0.032	0.035	0.038	0.041	0.044	0.048	0.052	0.056	0.060
26	PC	0.064	0.068	0.072	0.076	0.080	0.085	0.090	0.095	0.100	0.105
27	PC	0.110	0.115	0.120	0.126	0.133	0.140	0.147	0.155	0.163	0.172
28	PC	0.181	0.191	0.203	0.218	0.236	0.257	0.283	0.387	0.663	0.707
29	PC	0.735	0.758	0.776	0.791	0.804	0.815	0.825	0.834	0.842	0.849
30	PC	0.856	0.863	0.869	0.875	0.881	0.887	0.893	0.898	0.903	0.908
31	PC	0.913	0.918	0.922	0.926	0.930	0.934	0.938	0.942	0.946	0.950
32	PC	0.953	0.956	0.959	0.962	0.965	0.968	0.971	0.974	0.977	0.980
33	PC	0.983	0.986	0.989	0.992	0.995	0.998	1.000			
34	JD	4.324	10.00								
35	JD	4.140	30.00								
36	JD	3.956	60.00								
37	JD	3.892	90.00								
38	JD	3.836	120.00								
39	JD	3.795	150.00								
40	JD	3.680	300.00								
41	JD	3.588	500.00								
42	KK	SUB-23	BASIN								
43	BA	0.523									
44	LG	0.31	0.20	7.00	0.11	32					
45	UC	0.283	0.181								
46	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
47	UA	100									
48	KK	SUB-24	BASIN								
49	BA	0.267									
50	LG	0.32	0.24	7.00	0.11	31					
51	UC	0.246	0.203								
52	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0

1

52 UA 100

HEC-1 INPUT

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

53	KK	SUB-25	BASIN											
54	BA	0.937												
55	LG	0.34	0.35	7.00	0.12	28								
56	UC	0.383	0.252											
57	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0			
58	UA	100												
59	ZZ													

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE	(V) ROUTING	(--->) DIVERSION OR PUMP FLOW
NO.	(.) CONNECTOR	(<---) RETURN OF DIVERTED OR PUMPED FLOW
41	SUB-23	
	.	
47	.	SUB-24
	.	.
53	.	.
	.	SUB-25

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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
					6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT	SUB-23	1170.	12.17	128.	38.	14.	.52		
+	HYDROGRAPH AT	SUB-24	584.	12.13	64.	19.	7.	.27		
+	HYDROGRAPH AT	SUB-25	1728.	12.23	206.	60.	22.	.94		

*** NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 24JUL07 TIME 06:41:28
*
*****

```

```

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

```

```

X X XXXXXXX XXXXX X
X X X X X XX
X X X X X XX
XXXXXXXX XXXX X XXXXX X
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 Project ID: 40933-EEAST6HR - Major Basin: 01 - Return Period: 100 Years
2 ID
3 ID CAVECREEK DRAINAGE MASTER PLAN
4 ID HYDROLOGY OF UNDELINEATED AREAS EAST OF CAVE CREEK.
5 ID FCD CONTRACT #2004C072
6 ID PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
7 ID PREPARED BY HDR ENGINEERING-JULY 2007
8 ID FILE NAME: EE100-6.DAT
9 ID
10 ID *****
11 ID 100-YEAR, 6-HOUR STORM EVENT
12 ID MULTIPLE STORM EVENT
13 ID GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
14 ID EXISTING LAND USE FROM AERIAL PHOTOGRAPHY
15 ID *****
16 ID
17 ID
18 ID
19 *DIAGRAM
20 IT 2 2000
21 IO 3
22 IN 15
23 JD 3.40 0.01
24 PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
25 PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
26 PC 0.962 0.972 0.983 0.991 1.000
27 JD 3.378 0.50
28 PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
29 PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
30 PC 0.962 0.972 0.983 0.991 1.000
31 JD 3.314 2.80
32 PC 0.000 0.009 0.016 0.025 0.034 0.042 0.051 0.059 0.067 0.076
33 PC 0.087 0.100 0.120 0.163 0.252 0.451 0.694 0.837 0.900 0.938
34 PC 0.950 0.963 0.975 0.988 1.000
35 JD 3.135 16.0
36 PC 0.000 0.015 0.020 0.030 0.048 0.063 0.076 0.090 0.105 0.119
37 PC 0.135 0.152 0.175 0.222 0.304 0.472 0.670 0.796 0.868 0.912
38 PC 0.946 0.960 0.973 0.987 1.000
39 JD 2.761 90.0
40 PC 0.000 0.021 0.035 0.051 0.071 0.087 0.105 0.125 0.143 0.160
41 PC 0.179 0.201 0.232 0.281 0.364 0.500 0.658 0.773 0.841 0.888
42 PC 0.927 0.945 0.964 0.982 1.000
43 JD 1.938 500.0
44 PC 0.000 0.024 0.043 0.059 0.078 0.098 0.119 0.141 0.162 0.186
45 PC 0.212 0.239 0.271 0.321 0.408 0.515 0.627 0.735 0.814 0.864
46 PC 0.907 0.930 0.954 0.977 1.000
46 KK SUB-50 BASIN
47 BA 0.220
48 LG 0.35 0.35 6.60 0.14 24
49 UC 0.225 0.154
50 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
51 UA 100

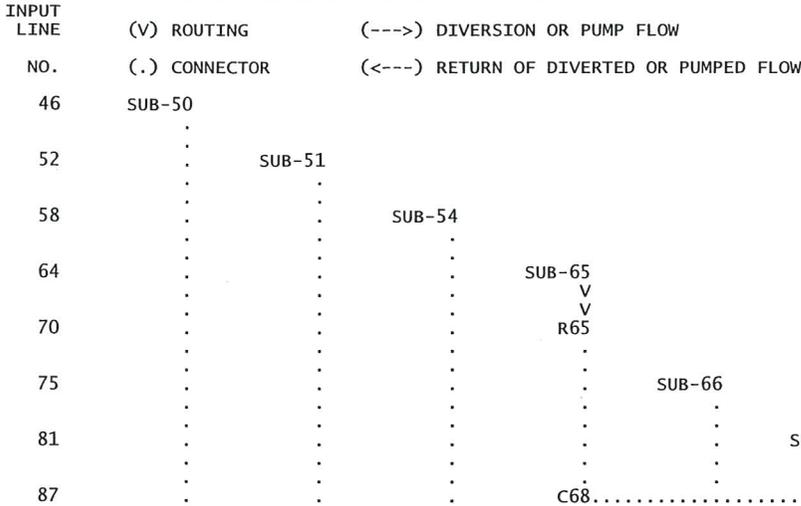
```

HEC-1 INPUT

PAGE 2

LINE	ID	1	2	3	4	5	6	7	8	9	10
52	KK	SUB-51	BASIN								
53	BA	0.253									
54	LG	0.33	0.31	4.55	0.34	6					
55	UC	0.338	0.350								
56	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
57	UA	100									
58	KK	SUB-54	BASIN								
59	BA	0.094									
60	LG	0.30	0.13	10.10	0.03	5					
61	UC	0.279	0.283								
62	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
63	UA	100									
64	KK	SUB-65	BASIN								
65	BA	0.184									
66	LG	0.31	0.19	8.00	0.08	6					
67	UC	0.367	0.352								
68	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
69	UA	100									
70	KK	R65	ROUTE	BASIN							
71	RS	9	FLOW	-1							
72	RC	0.053	0.045	0.053	4576	0.0131	924.00				
73	RX	0.0	10.3	19.3	25.9	32.9	53.6	89.4	104.0		
74	RY	924.0	922.0	920.0	918.0	918.0	920.0	922.0	924.0		
75	KK	SUB-66	BASIN								
76	BA	0.183									
77	LG	0.33	0.15	8.80	0.06	2					
78	UC	0.417	0.406								
79	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
80	UA	100									
81	KK	SUB-68	BASIN								
82	BA	0.123									
83	LG	0.32	0.13	10.10	0.03	3					
84	UC	0.367	0.411								
85	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
86	UA	100									
87	KK	C68									
88	KM	COMBINE R65, SUB-66, AND SUB-68									
89	HC	3									
90	ZZ										

SCHEMATIC DIAGRAM OF STREAM NETWORK



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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT								
+		SUB-50	624.	4.10	52.	13.	5.	.22	

+	HYDROGRAPH AT	SUB-51	433.	4.20	46.	12.	4.	.25
+	HYDROGRAPH AT	SUB-54	228.	4.17	26.	6.	2.	.09
+	HYDROGRAPH AT	SUB-65	372.	4.23	45.	11.	4.	.18
+	ROUTED TO	R65	354.	4.40	45.	11.	4.	.18
+	HYDROGRAPH AT	SUB-66	345.	4.27	46.	11.	4.	.18
+	HYDROGRAPH AT	SUB-68	242.	4.23	33.	8.	3.	.12
+	3 COMBINED AT	C68	873.	4.33	123.	31.	11.	.49

*** NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 24JUL07 TIME 06:43:38
*
*****

```

```

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

```

```

X X XXXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXXXX XXXX X XXXXX X
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 Project ID: 40933-EEAST24HR - Major Basin: 01 - Return Period: 100 Years
2 ID
3 ID CAVECREEK DRAINAGE MASTER PLAN
4 ID HYDROLOGY OF UNDELINEATED AREAS EAST OF CAVE CREEK.
5 ID FCD CONTRACT #2004C072
6 ID PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
7 ID PREPARED BY HDR ENGINEERING-JULY 2007
8 ID FILE NAME: EE100-24.DAT
9 ID
10 ID *****
11 ID 100-YEAR, 24-HOUR STORM EVENT
12 ID MULTIPLE STORM EVENT
13 ID GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
14 ID EXISTING LAND USE FROM AERIAL PHOTOGRAPHY
15 ID *****
16 ID
17 ID
18 ID
19 *DIAGRAM
IT 2
20 IO 3
21 IN 15
22 JD 4.60 0.01
23 PC 0.000 0.002 0.005 0.008 0.011 0.014 0.017 0.020 0.023 0.026
24 PC 0.029 0.032 0.035 0.038 0.041 0.044 0.048 0.052 0.056 0.060
25 PC 0.064 0.068 0.072 0.076 0.080 0.085 0.090 0.095 0.100 0.105
26 PC 0.110 0.115 0.120 0.126 0.133 0.140 0.147 0.155 0.163 0.172
27 PC 0.181 0.191 0.203 0.218 0.236 0.257 0.283 0.387 0.663 0.707
28 PC 0.735 0.758 0.776 0.791 0.804 0.815 0.825 0.834 0.842 0.849
29 PC 0.856 0.863 0.869 0.875 0.881 0.887 0.893 0.898 0.903 0.908
30 PC 0.913 0.918 0.922 0.926 0.930 0.934 0.938 0.942 0.946 0.950
31 PC 0.953 0.956 0.959 0.962 0.965 0.968 0.971 0.974 0.977 0.980
32 PC 0.983 0.986 0.989 0.992 0.995 0.998 1.000
33 JD 4.324 10.00
34 JD 4.140 30.00
35 JD 3.956 60.00
36 JD 3.892 90.00
37 JD 3.836 120.00
38 JD 3.795 150.00
39 JD 3.680 300.00
40 JD 3.588 500.00

41 KK SUB-50 BASIN
42 BA 0.220
43 LG 0.35 0.35 6.60 0.14 24
44 UC 0.225 0.154
45 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
46 UA 100

47 KK SUB-51 BASIN
48 BA 0.253
49 LG 0.33 0.31 4.55 0.34 6
50 UC 0.338 0.350
51 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0

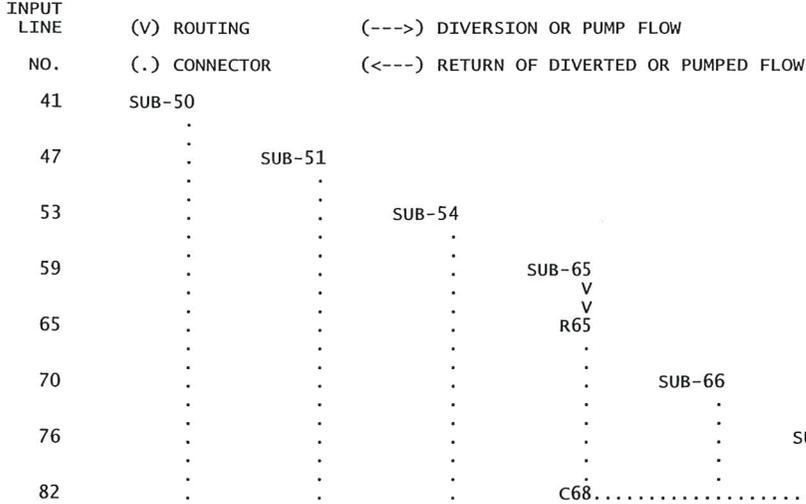
```

1

LINE	ID	1	2	3	4	5	6	7	8	9	10
52	UA	100									
HEC-1 INPUT											
53	KK	SUB-54	BASIN								
54	BA	0.094									
55	LG	0.30	0.13	10.10	0.03	5					
56	UC	0.279	0.283								
57	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
58	UA	100									
59	KK	SUB-65	BASIN								
60	BA	0.184									
61	LG	0.31	0.19	8.00	0.08	6					
62	UC	0.367	0.352								
63	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
64	UA	100									
65	KK	R65	ROUTE	BASIN							
66	RS	9	FLOW	-1							
67	RC	0.053	0.045	0.053	4576	0.0131	1924.00				
68	RX	0.0	10.3	19.3	25.9	32.9	53.6	89.4	104.0		
69	RY	924.0	922.0	920.0	918.0	918.0	920.0	922.0	924.0		
70	KK	SUB-66	BASIN								
71	BA	0.183									
72	LG	0.33	0.15	8.80	0.06	2					
73	UC	0.417	0.406								
74	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
75	UA	100									
76	KK	SUB-68	BASIN								
77	BA	0.123									
78	LG	0.32	0.13	10.10	0.03	3					
79	UC	0.367	0.411								
80	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
81	UA	100									
82	KK	C68									
83	KM	COMBINE R65, SUB-66, AND SUB-68									
84	HC	3									
85	ZZ										

1

SCHEMATIC DIAGRAM OF STREAM NETWORK



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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT								
+		SUB-50	510.	12.10	47.	14.	5.	.22	
+	HYDROGRAPH AT								
+		SUB-51	356.	12.20	39.	10.	4.	.25	
+	HYDROGRAPH AT								
+		SUB-54	187.	12.17	27.	7.	3.	.09	

	HYDROGRAPH AT	SUB-65	306.	12.23	42.	11.	4.	.18
+	ROUTED TO	R65	306.	12.27	42.	11.	4.	.18
+	HYDROGRAPH AT	SUB-66	285.	12.27	45.	11.	4.	.18
+	HYDROGRAPH AT	SUB-68	199.	12.23	35.	9.	3.	.12
+	3 COMBINED AT	C68	778.	12.27	120.	31.	11.	.49

*** NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 24JUL07 TIME 06:48:42
*
*****

```

```

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

```

```

X X XXXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXXX XXXX X XXXXX X
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

```

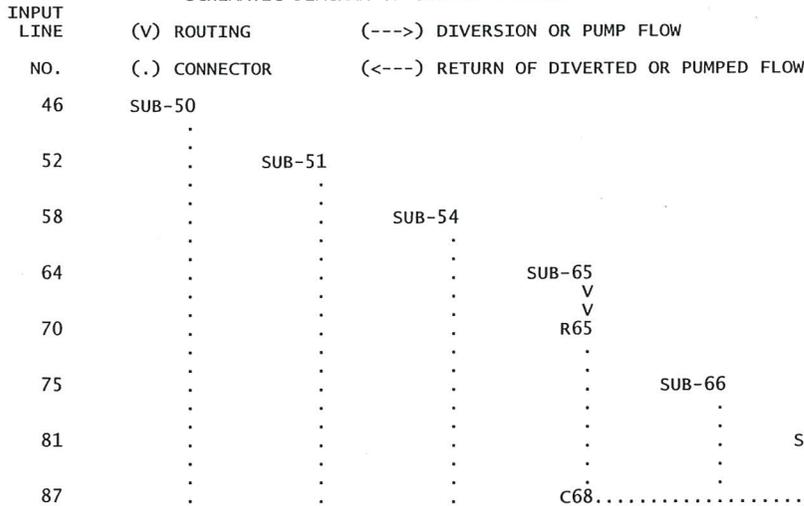
LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1 ID Project ID: 40933-FAEST6HR - Major Basin: 01 - Return Period: 100 Years
2 ID
3 ID CAVECREEK DRAINAGE MASTER PLAN
4 ID HYDROLOGY OF UNDELINEATED AREAS EAST OF CAVE CREEK.
5 ID FCD CONTRACT #2004C072
6 ID PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
7 ID PREPARED BY HDR ENGINEERING-JULY 2007
8 ID FILE NAME: FE100-6.DAT
9 ID
10 ID *****
11 ID 100-YEAR, 6-HOUR STORM EVENT
12 ID MULTIPLE STORM EVENT
13 ID GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
14 ID FUTURE LAND USE FROM ZONING MAP
15 ID *****
16 ID
17 ID
18 ID
19 ID *DIAGRAM
20 IT 2 2000
21 IO 3
22 IN 15
23 JD 3.40 0.01
24 PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
25 PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
26 PC 0.962 0.972 0.983 0.991 1.000
27 JD 3.378 0.50
28 PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
29 PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
30 PC 0.962 0.972 0.983 0.991 1.000
31 JD 3.314 2.80
32 PC 0.000 0.009 0.016 0.025 0.034 0.042 0.051 0.059 0.067 0.076
33 PC 0.087 0.100 0.120 0.163 0.252 0.451 0.694 0.837 0.900 0.938
34 PC 0.950 0.963 0.975 0.988 1.000
35 JD 3.135 16.0
36 PC 0.000 0.015 0.020 0.030 0.048 0.063 0.076 0.090 0.105 0.119
37 PC 0.135 0.152 0.175 0.222 0.304 0.472 0.670 0.796 0.868 0.912
38 PC 0.946 0.960 0.973 0.987 1.000
39 JD 2.761 90.0
40 PC 0.000 0.021 0.035 0.051 0.071 0.087 0.105 0.125 0.143 0.160
41 PC 0.179 0.201 0.232 0.281 0.364 0.500 0.658 0.773 0.841 0.888
42 PC 0.927 0.945 0.964 0.982 1.000
43 JD 1.938 500.0
44 PC 0.000 0.024 0.043 0.059 0.078 0.098 0.119 0.141 0.162 0.186
45 PC 0.212 0.239 0.271 0.321 0.408 0.515 0.627 0.735 0.814 0.864
46 PC 0.907 0.930 0.954 0.977 1.000
46 KK SUB-50 BASIN
47 BA 0.220
48 LG 0.30 0.19 6.60 0.13 29
49 UC 0.221 0.151
50 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
51 UA 100

```

LINE	ID	1	2	3	4	5	6	7	8	9	10
52	KK	SUB-51	BASIN								
53	BA	0.253									
54	LG	0.30	0.33	4.55	0.32	9					
55	UC	0.329	0.340								
56	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
57	UA	100									
58	KK	SUB-54	BASIN								
59	BA	0.094									
60	LG	0.30	0.13	10.10	0.03	5					
61	UC	0.275	0.279								
62	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
63	UA	100									
64	KK	SUB-65	BASIN								
65	BA	0.184									
66	LG	0.29	0.15	8.00	0.08	8					
67	UC	0.350	0.334								
68	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
69	UA	100									
70	KK	R65	ROUTE	BASIN							
71	RS	9	FLOW	-1							
72	RC	0.053	0.045	0.053	4576	0.0131	924.00				
73	RX	0.0	10.3	19.3	25.9	32.9	53.6	89.4	104.0		
74	RY	924.0	922.0	920.0	918.0	918.0	920.0	922.0	924.0		
75	KK	SUB-66	BASIN								
76	BA	0.183									
77	LG	0.30	0.15	8.80	0.06	5					
78	UC	0.413	0.402								
79	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
80	UA	100									
81	KK	SUB-68	BASIN								
82	BA	0.123									
83	LG	0.30	0.13	10.10	0.03	6					
84	UC	0.358	0.400								
85	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
86	UA	100									
87	KK	C68									
88	KM	COMBINE	R65, SUB-66, AND SUB-68								
89	HC	3									
90	ZZ										

1

SCHEMATIC DIAGRAM OF STREAM NETWORK



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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT								
+	SUB-50	656.	4.10	58.	15.	5.	.22		

	HYDROGRAPH AT	SUB-51	451.	4.20	48.	12.	4.	.25
+	HYDROGRAPH AT	SUB-54	230.	4.17	26.	6.	2.	.09
+	HYDROGRAPH AT	SUB-65	388.	4.23	46.	12.	4.	.18
+	ROUTED TO	R65	371.	4.40	46.	12.	4.	.18
+	HYDROGRAPH AT	SUB-66	349.	4.27	47.	12.	4.	.18
+	HYDROGRAPH AT	SUB-68	246.	4.23	34.	8.	3.	.12
+	3 COMBINED AT	C68	902.	4.33	127.	32.	11.	.49

*** NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 24JUL07 TIME 06:50:32
*
*****

```

```

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

```

```

X   X  XXXXXXX  XXXXX      X
X   X  X      X      X      XX
X   X  X      X      X      X
XXXXXXX XXXX   X      XXXXX  X
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 -AMSK- 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

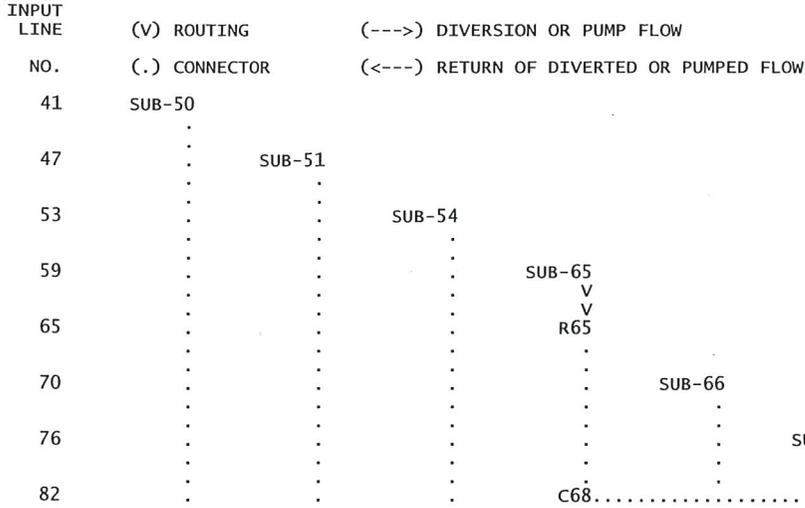
```

LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1         ID      Project ID: 40933-FAEST24HR - Major Basin: 01 - Return Period: 100 Years
2         ID
3         ID      CAVECREEK DRAINAGE MASTER PLAN
4         ID      HYDROLOGY OF UNDELINEATED AREAS EAST OF CAVE CREEK.
5         ID      FCD CONTRACT #2004C072
6         ID      PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
7         ID      PREPARED BY HDR ENGINEERING-JULY 2007
8         ID      FILE NAME: FE100-24.DAT
9         ID
10        ID      *****
11        ID      100-YEAR, 24-HOUR STORM EVENT
12        ID      MULTIPLE STORM EVENT
13        ID      GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
14        ID      FUTURE LAND USE FROM ZONING MAP
15        ID      *****
16        ID
17        ID
18        ID
19        *DIAGRAM
20        IT      2
21        IO      3
22        IN      15
23        JD      4.60  0.01
24        PC      0.000  0.002  0.005  0.008  0.011  0.014  0.017  0.020  0.023  0.026
25        PC      0.029  0.032  0.035  0.038  0.041  0.044  0.048  0.052  0.056  0.060
26        PC      0.064  0.068  0.072  0.076  0.080  0.085  0.090  0.095  0.100  0.105
27        PC      0.110  0.115  0.120  0.126  0.133  0.140  0.147  0.155  0.163  0.172
28        PC      0.181  0.191  0.203  0.218  0.236  0.257  0.283  0.387  0.663  0.707
29        PC      0.735  0.758  0.776  0.791  0.804  0.815  0.825  0.834  0.842  0.849
30        PC      0.856  0.863  0.869  0.875  0.881  0.887  0.893  0.898  0.903  0.908
31        PC      0.913  0.918  0.922  0.926  0.930  0.934  0.938  0.942  0.946  0.950
32        PC      0.953  0.956  0.959  0.962  0.965  0.968  0.971  0.974  0.977  0.980
33        PC      0.983  0.986  0.989  0.992  0.995  0.998  1.000
34        JD      4.324  10.00
35        JD      4.140  30.00
36        JD      3.956  60.00
37        JD      3.892  90.00
38        JD      3.836  120.00
39        JD      3.795  150.00
40        JD      3.680  300.00
41        JD      3.588  500.00
42        KK      SUB-50  BASIN
43        BA      0.220
44        LG      0.30  0.19  6.60  0.13  29
45        UC      0.221  0.151
46        UA      0  3.0  5.0  8.0  12.0  20.0  43.0  75.0  90.0  96.0
47        UA      100
48        KK      SUB-51  BASIN
49        BA      0.253
50        LG      0.30  0.33  4.55  0.32  9
51        UC      0.329  0.340
52        UA      0  3.0  5.0  8.0  12.0  20.0  43.0  75.0  90.0  96.0

```

LINE	ID	1	2	3	4	5	6	7	8	9	10
53	KK	SUB-54	BASIN								
54	BA	0.094									
55	LG	0.30	0.13	10.10	0.03	5					
56	UC	0.275	0.279								
57	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
58	UA	100									
59	KK	SUB-65	BASIN								
60	BA	0.184									
61	LG	0.29	0.15	8.00	0.08	8					
62	UC	0.350	0.334								
63	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
64	UA	100									
65	KK	R65	ROUTE	BASIN							
66	RS	9	FLOW	-1							
67	RC	0.053	0.045	0.053	4576	0.0131	924.00				
68	RX	0.0	10.3	19.3	25.9	32.9	53.6	89.4	104.0		
69	RY	924.0	922.0	920.0	918.0	918.0	920.0	922.0	924.0		
70	KK	SUB-66	BASIN								
71	BA	0.183									
72	LG	0.30	0.15	8.80	0.06	5					
73	UC	0.413	0.402								
74	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
75	UA	100									
76	KK	SUB-68	BASIN								
77	BA	0.123									
78	LG	0.30	0.13	10.10	0.03	6					
79	UC	0.358	0.400								
80	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
81	UA	100									
82	KK	C68									
83	KM	COMBINE	R65, SUB-66, AND SUB-68								
84	HC	3									
85	ZZ										

SCHEMATIC DIAGRAM OF STREAM NETWORK



RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT								
+		SUB-50	533.	12.10	53.	15.	6.	.22	
+	HYDROGRAPH AT								
+		SUB-51	370.	12.20	41.	11.	4.	.25	
+	HYDROGRAPH AT								
+		SUB-54	188.	12.17	27.	7.	3.	.09	

	HYDROGRAPH AT	SUB-65	318.	12.23	44.	11.	4.	.18
+	ROUTED TO	R65	303.	12.40	44.	11.	4.	.18
+	HYDROGRAPH AT	SUB-66	287.	12.27	45.	12.	4.	.18
+	HYDROGRAPH AT	SUB-68	202.	12.23	35.	9.	3.	.12
+	3 COMBINED AT	C68	732.	12.33	123.	32.	12.	.49

*** NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 25JUL07 TIME 08:01:36
*
*****

```

```

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

```

```

X X XXXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXXX XXXX X XXXXX X
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 Project ID: 40933-E6HR - Major Basin: 01 - Return Period: 100 Years
2 ID
3 ID
4 ID CAVECREEK DRAINAGE MASTER PLAN
5 ID FLOODPLAIN DELINEATION STUDY OF CAVECREEK TRIBUTARIES, WILLOW SPRINGS WASH
6 ID TRIBUTARIES, GALLOWAY TRIBUTARIES, AND MORMAN GIRL WASH TRIBUTARIES.
7 ID FCD CONTRACT #2004C072
8 ID PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
9 ID PREPARED BY HDR ENGINEERING-July 2007
10 ID FILE NAME: E100-6.DAT
11 ID
12 ID *****
13 ID 100-YEAR, 6-HOUR STORM EVENT
14 ID MULTIPLE STORM EVENT
15 ID GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
16 ID EXISTING LAND USE FROM AERIAL PHOTOGRAPHY
17 ID *****
18 ID
19 ID
20 ID
21 ID
22 ID 3DIAGRAM
23 IT 2 2000
24 IO 3
25 IN 15
26 JD 3.40 0.01
26 PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
27 PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
28 PC 0.962 0.972 0.983 0.991 1.000
29 JD 3.378 0.50
30 PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
31 PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
32 PC 0.962 0.972 0.983 0.991 1.000
33 JD 3.314 2.80
34 PC 0.000 0.009 0.016 0.025 0.034 0.042 0.051 0.059 0.067 0.076
35 PC 0.087 0.100 0.120 0.163 0.252 0.451 0.694 0.837 0.900 0.938
36 PC 0.950 0.963 0.975 0.988 1.000
37 JD 3.135 16.0
38 PC 0.000 0.015 0.020 0.030 0.048 0.063 0.076 0.090 0.105 0.119
39 PC 0.135 0.152 0.175 0.222 0.304 0.472 0.670 0.796 0.868 0.912
40 PC 0.946 0.960 0.973 0.987 1.000
41 JD 2.761 90.0
42 PC 0.000 0.021 0.035 0.051 0.071 0.087 0.105 0.125 0.143 0.160
43 PC 0.179 0.201 0.232 0.281 0.364 0.500 0.658 0.773 0.841 0.888
44 PC 0.927 0.945 0.964 0.982 1.000
45 JD 1.938 500.0
46 PC 0.000 0.024 0.043 0.059 0.078 0.098 0.119 0.141 0.162 0.186
47 PC 0.212 0.239 0.271 0.321 0.408 0.515 0.627 0.735 0.814 0.864
48 PC 0.907 0.930 0.954 0.977 1.000

```

```

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

```


229	KM	COMBINE C46 AND SUB45										
230	HC	2										
	*											
231	KK	R45	ROUTE	REACH								
232	RS	9	FLOW	-1								
233	RC	0.053	0.045	0.053	4898	0.0218	192.00					
234	RX	0.0	26.3	64.2	107.1	146.4	157.7	166.9	176.3			
235	RY	192.0	190.0	188.0	186.0	186.0	188.0	190.0	192.0			
	*											
236	KK	SUB-47	BASIN									
237	BA	0.178										
238	LG	0.32	0.29	5.40	0.21	3						
239	UC	0.292	0.256									
240	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
241	UA	100										
	*											
242	KK	C47										
243	KM	COMBINE R45 AND SUB47										
244	HC	2										
	*											
245	KK	SUB-75	BASIN									
246	BA	0.016										
247	LG	0.35	0.40	6.00	0.18	13						
248	UC	0.142	0.188									
249	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
250	UA	100										
	*											
251	KK	SUB-76	BASIN									
252	BA	0.020										
253	LG	0.31	0.28	5.20	0.24	7						
254	UC	0.146	0.171									
255	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
256	UA	100										
	*											
257	KK	C76										
258	KM	COMBINE SUB-75, AND SUB-76										
259	HC	2										
	*											
260	KK	R76	ROUTE	REACH								
261	RS	2	FLOW	-1								
262	RC	0.053	0.045	0.053	919	0.0152	114.00					
263	RX	0.0	44.9	63.2	67.9	71.3	107.2	136.4	159.2			
264	RY	114.0	112.0	110.0	108.0	108.0	110.0	112.0	114.0			
	*											
					HEC-1 INPUT							
LINE	ID	1	2	3	4	5	6	7	8	9	10	
265	KK	SUB-73	BASIN									
266	BA	0.056										
267	LG	0.34	0.36	6.60	0.15	24						
268	UC	0.163	0.151									
269	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
270	UA	100										
	*											
271	KK	C73										
272	KM	COMBINE R76 AND SUB-73										
273	HC	2										
	*											
274	KK	SUB-74	BASIN									
275	BA	0.156										
276	LG	0.32	0.28	6.80	0.14	31						
277	UC	0.217	0.184									
278	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
279	UA	100										
	*											
280	KK	C74										
281	KM	COMBINE C73 AND SUB-74										
282	HC	2										
	*											
283	KK	R74	ROUTE	REACH								
284	RS	2	FLOW	-1								
285	RC	0.053	0.045	0.053	1412	0.0212	92.00					
286	RX	0.0	25.4	69.1	79.9	84.8	92.1	99.9	130.3			
287	RY	92.0	90.0	88.0	86.0	86.0	88.0	90.0	92.0			
	*											
288	KK	SUB-71	BASIN									
289	BA	0.035										

290	LG	0.35	0.36	6.60	0.15	22					
291	UC	0.150	0.149								
292	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
293	UA	100									

294	KK	C71									
295	KM	COMBINE R74 AND SUB-71									
296	HC	2									

297	KK	SUB-70	BASIN								
298	BA	0.072									
299	LG	0.34	0.33	6.60	0.15	25					
300	UC	0.213	0.261								
301	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
302	UA	100									

1

HEC-1 INPUT

PAGE 9

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

303	KK	R70	ROUTE	BASIN							
304	RS	1	FLOW	-1							
305	RC	0.053	0.045	0.053	403	0.0546	92.00				
306	RX	0.0	10.7	21.5	44.3	64.8	88.0	122.0	149.0		
307	RY	92.0	90.0	88.0	86.0	86.0	88.0	90.0	92.0		

308	KK	SUB-72	BASIN								
309	BA	0.155									
310	LG	0.34	0.33	6.60	0.15	23					
311	UC	0.217	0.188								
312	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
313	UA	100									

314	KK	C70									
315	KM	COMBINE R70 AND SUB-72									
316	HC	2									

317	KK	C72									
318	KM	COMBINE C70 AND C71									
319	HC	2									

320	KK	R72	ROUTE	REACH							
321	RS	4	FLOW	-1							
322	RC	0.053	0.045	0.053	3492	0.0218	6.00				
323	RX	0.0	21.3	57.8	75.7	77.8	85.0	92.5	99.9		
324	RY	5.0	4.0	2.0	0.0	0.0	2.0	4.0	6.0		

325	KK	SUB-69	BASIN								
326	BA	0.471									
327	LG	0.32	0.31	6.00	0.19	23					
328	UC	0.275	0.198								
329	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
330	UA	100									

331	KK	C69									
332	KM	COMBINE R72 AND SUB-69									
333	HC	2									

334	KK	SUB-57	BASIN								
335	BA	0.066									
336	LG	0.33	0.33	5.80	0.19	15					
337	UC	0.158	0.121								
338	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
339	UA	100									

1

HEC-1 INPUT

PAGE 10

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

340	KK	C57									
341	KM	COMBINE SUB-57 AND C69									
342	HC	2									

343	KK	R69	ROUTE	REACH							
344	RS	3	FLOW	-1							
345	RC	0.053	0.045	0.053	2610	0.0146	972.00				
346	RX	0.0	36.7	77.1	91.0	126.4	146.8	157.7	170.6		
347	RY	972.0	970.0	968.0	966.0	966.0	968.0	970.0	972.0		

348	KK	SUB-58	BASIN									
349	BA	0.111										
350	LG	0.33	0.33	5.30	0.23	3						
351	UC	0.196	0.163									
352	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
353	UA	100										
	*											

354	KK	R58	ROUTE	BASIN								
355	RS	1	FLOW	-1								
356	RC	0.053	0.045	0.053	455	0.0132	972.00					
357	RX	0.0	36.7	77.1	91.0	126.4	146.8	157.7	170.6			
358	RY	972.0	970.0	968.0	966.0	966.0	968.0	970.0	972.0			
	*											

359	KK	SUB-59	BASIN									
360	BA	0.082										
361	LG	0.31	0.27	5.00	0.30	10						
362	UC	0.400	0.605									
363	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
364	UA	100										
	*											

365	KK	SUB-60	BASIN									
366	BA	0.092										
367	LG	0.32	0.23	7.00	0.13	9						
368	UC	0.338	0.432									
369	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
370	UA	100										
	*											

371	KK	C60										
372	KM	COMBINE R69, R58, SUB-59, SUB-60										
373	HC	4										
	*											

374	KK	R60	ROUTE	REACH								
375	RS	1	FLOW	-1								
376	RC	0.053	0.045	0.053	420	0.0143	960.00					
377	RX	0.0	42.8	63.6	82.6	106.8	117.5	120.1	182.8			
378	RY	964.0	962.0	960.0	958.0	958.0	960.0	960.0	960.0			
	*											

HEC-1 INPUT

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

379	KK	SUB-61	BASIN									
380	BA	0.142										
381	LG	0.31	0.17	7.60	0.10	11						
382	UC	0.396	0.527									
383	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
384	UA	100										
	*											

385	KK	C61										
386	KM	COMBINE R60, AND SUB-61										
387	HC	2										
	*											

388	KK	R61	ROUTE	REACH								
389	RS	1	FLOW	-1								
390	RC	0.053	0.045	0.053	780	0.0103	950.00					
391	RX	0.0	7.4	14.6	36.2	47.1	62.9	69.6	76.4			
392	RY	950.0	948.0	946.0	946.0	946.0	946.0	948.0	950.0			
	*											

393	KK	SUB-62	BASIN									
394	BA	0.098										
395	LG	0.32	0.22	7.60	0.10	4						
396	UC	0.304	0.332									
397	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
398	UA	100										
	*											

399	KK	SUB-63	BASIN									
400	BA	0.082										
401	LG	0.31	0.18	8.00	0.08	5						
402	UC	0.292	0.351									
403	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
404	UA	100										
	*											

405	KK	C63										
406	KM	COMBINE R61, SUB-62, AND SUB-63										
407	HC	3										
	*											

408	KK	R63	ROUTE	REACH								
409	RS	2	FLOW	-1								
410	RC	0.053	0.045	0.053	2145	0.0196	922.00					
411	RX	0.0	4.2	8.2	12.2	36.3	41.2	45.8	50.4			

412	RY	922.0	920.0	918.0	916.0	916.0	918.0	920.0	922.0
	*								
413	KK	SUB-64	BASIN						
414	BA	0.071							
415	LG	0.31	0.18	7.30	0.10	4			
416	UC	0.292	0.360						
417	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0
418	UA	100							90.0
	*								96.0

1

HEC-1 INPUT

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

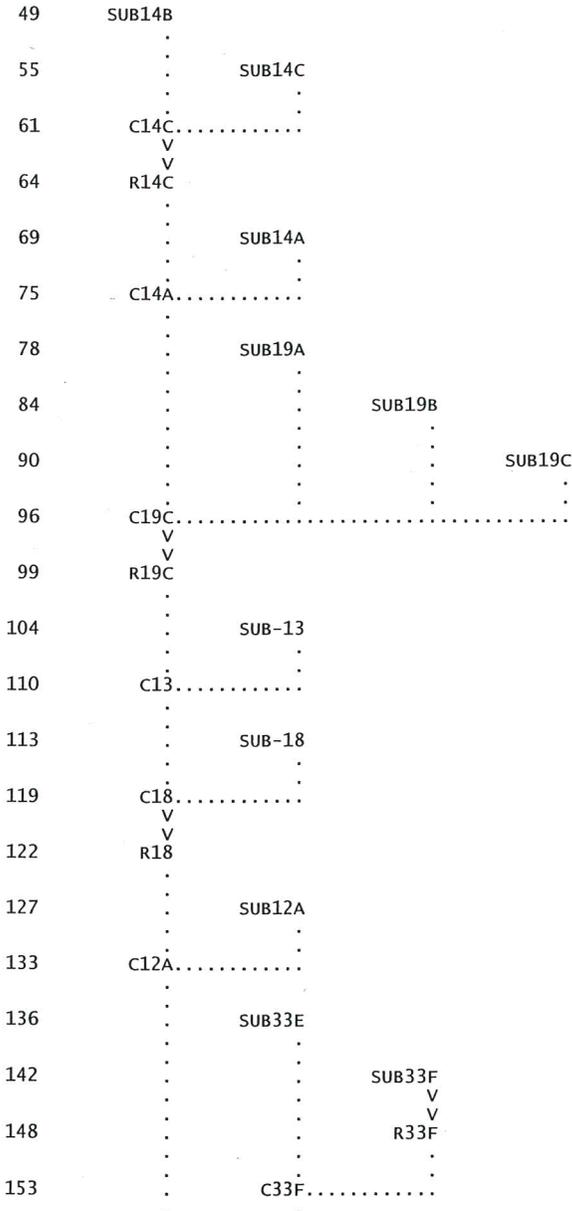
419	KK	C64
420	KM	COMBINE R63, AND SUB-64
421	HC	2
	*	
422	ZZ	

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE

(V) ROUTING (--->) DIVERSION OR PUMP FLOW
 (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW



153

156	.	.	SUB33D	.
162	.	C33D.....	.	.
165	.	V	.	.
170	.	R33D	SUB33B	.
176	.	.	.	.
179	.	C33B.....	.	.
185	.	.	SUB33C	.
188	.	C33C.....	.	.
193	.	V	.	.
199	.	R33C	SUB33A	.
202	.	.	.	.
208	.	.	SUB46A	.
214	.	.	.	SUB46B
219	.	.	.	V
222	.	.	.	V
228	.	.	.	R46B
231	.	.	C46.....	.
236	.	.	.	.
242	.	.	SUB-45	.
245	.	.	.	.
251	.	.	C45.....	.
257	.	.	V	.
260	.	.	R45	SUB-47
265	.	.	.	.
271	.	.	C47.....	.
274	.	.	.	SUB-75
280	.	.	.	.
283	.	.	.	SUB-76
288	.	.	.	.
294	.	.	.	C76.....
297	.	.	.	V
	.	.	.	V
	.	.	.	R76

	.	.	.	SUB-73

	.	.	.	C73.....

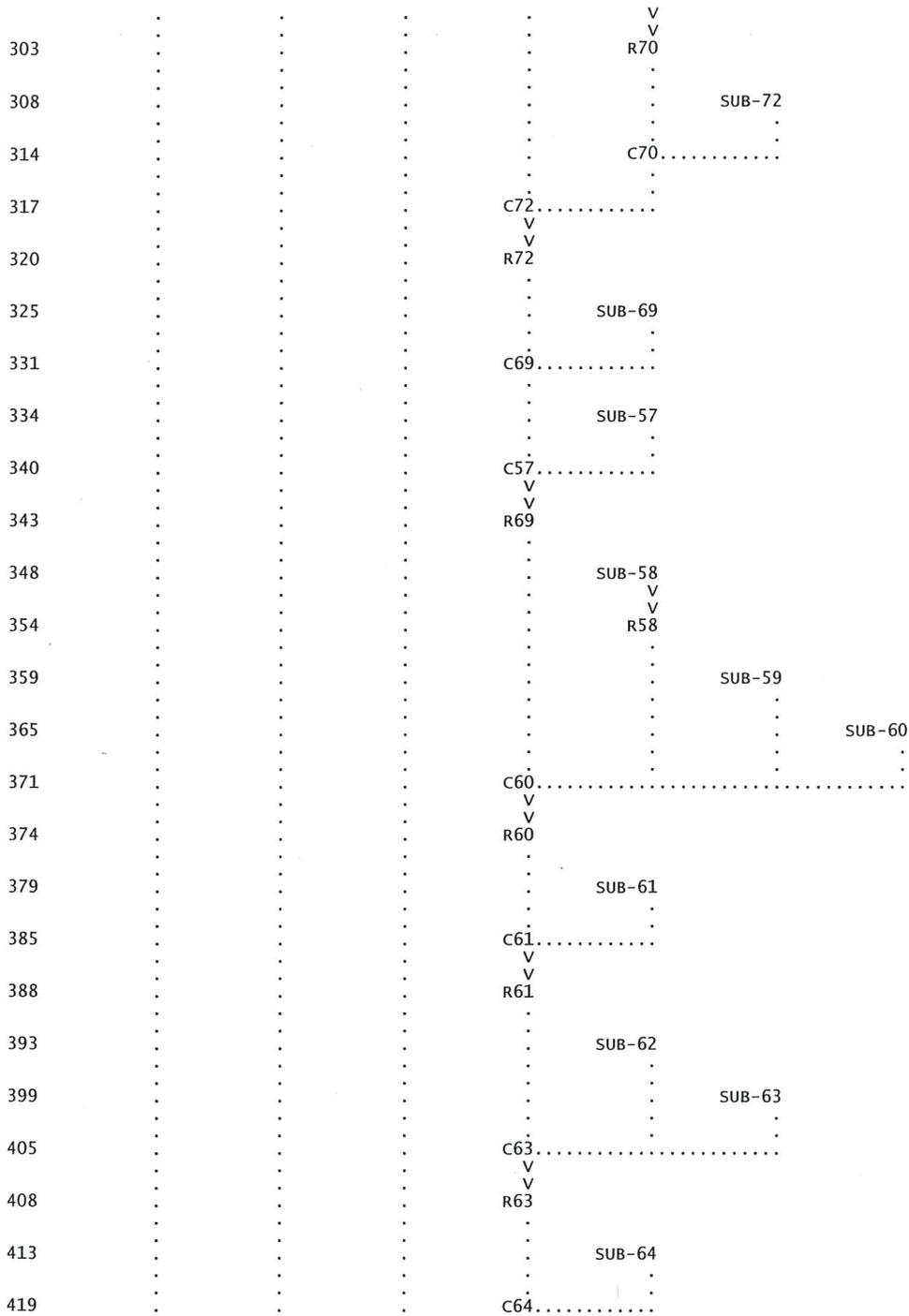
	.	.	.	SUB-74

	.	.	.	C74.....
	.	.	.	V
	.	.	.	V
	.	.	.	R74

	.	.	.	SUB-71

	.	.	.	C71.....

	.	.	.	SUB-70



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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
					6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT	SUB14B	543.	4.20	54.	14.	5.	.27		
+	HYDROGRAPH AT	SUB14C	1118.	4.17	97.	24.	9.	.46		

+	2 COMBINED AT	C14C	1509.	4.17	148.	37.	13.	.73
	ROUTED TO	R14C	1451.	4.27	148.	37.	13.	.73
+	HYDROGRAPH AT	SUB14A	482.	4.13	40.	10.	4.	.18
+	2 COMBINED AT	C14A	1691.	4.23	185.	46.	17.	.91
+	HYDROGRAPH AT	SUB19A	294.	4.10	27.	7.	2.	.11
+	HYDROGRAPH AT	SUB19B	650.	4.13	64.	16.	6.	.26
+	HYDROGRAPH AT	SUB19C	283.	4.10	27.	7.	2.	.10
+	4 COMBINED AT	C19C	2344.	4.17	292.	73.	26.	1.38
+	ROUTED TO	R19C	2274.	4.30	292.	73.	26.	1.38
+	HYDROGRAPH AT	SUB-13	1431.	4.13	99.	25.	9.	.54
+	2 COMBINED AT	C13	2664.	4.23	372.	93.	34.	1.92
+	HYDROGRAPH AT	SUB-18	999.	4.17	97.	24.	9.	.38
+	2 COMBINED AT	C18	3129.	4.20	458.	115.	41.	2.30
+	ROUTED TO	R18	3117.	4.27	458.	115.	41.	2.30
+	HYDROGRAPH AT	SUB12A	233.	4.10	21.	5.	2.	.09
+	2 COMBINED AT	C12A	3198.	4.27	476.	120.	43.	2.39
+	HYDROGRAPH AT	SUB33E	548.	4.10	47.	12.	4.	.19
+	HYDROGRAPH AT	SUB33F	60.	4.07	5.	1.	0.	.02
+	ROUTED TO	R33F	59.	4.10	5.	1.	0.	.02
+	2 COMBINED AT	C33F	606.	4.10	52.	13.	5.	.22
+	HYDROGRAPH AT	SUB33D	50.	4.23	7.	2.	1.	.04
+	2 COMBINED AT	C33D	643.	4.10	59.	15.	5.	.25
+	ROUTED TO	R33D	625.	4.17	59.	15.	5.	.25
+	HYDROGRAPH AT	SUB33B	417.	4.13	36.	9.	3.	.16
+	2 COMBINED AT	C33B	1017.	4.13	94.	24.	9.	.41
+	HYDROGRAPH AT	SUB33C	77.	4.10	8.	2.	1.	.03
+	2 COMBINED AT	C33C	1092.	4.13	102.	26.	9.	.43
+	ROUTED TO	R33C	1073.	4.17	102.	26.	9.	.43
+	HYDROGRAPH AT	SUB33A	182.	4.07	13.	3.	1.	.05
+	2 COMBINED AT	C33A	1182.	4.17	115.	29.	10.	.49
+	HYDROGRAPH AT	SUB46A	81.	4.10	7.	2.	1.	.03

+	HYDROGRAPH AT	SUB46B	69.	4.10	6.	2.	1.	.03
	ROUTED TO	R46B	68.	4.13	6.	2.	1.	.03
+	2 COMBINED AT	C46	146.	4.10	13.	3.	1.	.06
+	HYDROGRAPH AT	SUB-45	180.	4.17	21.	5.	2.	.09
+	2 COMBINED AT	C45	320.	4.13	34.	9.	3.	.15
+	ROUTED TO	R45	296.	4.37	34.	9.	3.	.15
+	HYDROGRAPH AT	SUB-47	388.	4.17	36.	9.	3.	.18
+	2 COMBINED AT	C47	579.	4.27	70.	17.	6.	.33
+	HYDROGRAPH AT	SUB-75	42.	4.07	3.	1.	0.	.02
+	HYDROGRAPH AT	SUB-76	55.	4.07	4.	1.	0.	.02
+	2 COMBINED AT	C76	97.	4.07	7.	2.	1.	.04
+	ROUTED TO	R76	92.	4.10	7.	2.	1.	.04
+	HYDROGRAPH AT	SUB-73	163.	4.07	13.	3.	1.	.06
+	2 COMBINED AT	C73	253.	4.10	21.	5.	2.	.09
+	HYDROGRAPH AT	SUB-74	428.	4.10	40.	10.	4.	.16
+	2 COMBINED AT	C74	680.	4.10	60.	15.	5.	.25
+	ROUTED TO	R74	661.	4.13	60.	15.	5.	.25
+	HYDROGRAPH AT	SUB-71	103.	4.07	8.	2.	1.	.04
+	2 COMBINED AT	C71	747.	4.13	68.	17.	6.	.28
+	HYDROGRAPH AT	SUB-70	168.	4.13	17.	4.	2.	.07
+	ROUTED TO	R70	168.	4.13	17.	4.	2.	.07
+	HYDROGRAPH AT	SUB-72	411.	4.10	36.	9.	3.	.16
+	2 COMBINED AT	C70	577.	4.13	54.	13.	5.	.23
+	2 COMBINED AT	C72	1315.	4.13	121.	30.	11.	.51
+	ROUTED TO	R72	1250.	4.23	121.	30.	11.	.51
+	HYDROGRAPH AT	SUB-69	1190.	4.17	109.	27.	10.	.47
+	2 COMBINED AT	C69	2008.	4.17	222.	56.	20.	.98
+	HYDROGRAPH AT	SUB-57	202.	4.07	14.	4.	1.	.07
+	2 COMBINED AT	C57	2085.	4.17	235.	59.	21.	1.05
+	ROUTED TO	R69	2035.	4.23	234.	59.	21.	1.05
	HYDROGRAPH AT							

+		SUB-58	296.	4.10	21.	5.	2.	.11
	ROUTED TO	R58	290.	4.10	21.	5.	2.	.11
	HYDROGRAPH AT							
+		SUB-59	103.	4.27	16.	4.	1.	.08
	HYDROGRAPH AT							
+		SUB-60	160.	4.23	21.	5.	2.	.09
	4 COMBINED AT	C60	2272.	4.23	285.	72.	26.	1.33
	ROUTED TO	R60	2258.	4.27	285.	72.	26.	1.33
	HYDROGRAPH AT							
+		SUB-61	226.	4.27	35.	9.	3.	.14
	2 COMBINED AT	C61	2376.	4.27	317.	80.	29.	1.47
	ROUTED TO	R61	2370.	4.27	317.	80.	29.	1.47
	HYDROGRAPH AT							
+		SUB-62	202.	4.20	23.	6.	2.	.10
	HYDROGRAPH AT							
+		SUB-63	169.	4.17	20.	5.	2.	.08
	3 COMBINED AT	C63	2557.	4.27	355.	89.	32.	1.65
	ROUTED TO	R63	2544.	4.30	355.	89.	32.	1.65
	HYDROGRAPH AT							
+		SUB-64	143.	4.20	17.	4.	2.	.07
	2 COMBINED AT	C64	2611.	4.30	370.	93.	33.	1.72

NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 25JUL07 TIME 08:46:57
*
*****

```

```

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

```

```

X   X XXXXXXXX XXXXX      X
X   X X      X      X    XX
X   X X      X      X    X
XXXXXXX XXXX  X      XXXXX X
X   X X      X      X    X
X   X X      X      X    X
X   X XXXXXXXX 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
 DSS: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

```

LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1         ID   Project ID: 40933-E24HR - Major Basin: 01 - Return Period: 100 Years
2         ID
3         ID
4         ID   CAVECREEK DRAINAGE MASTER PLAN
5         ID   FLOODPLAIN DELINEATION STUDY OF CAVECREEK TRIBUTARIES, WILLOW SPRINGS WASH
6         ID   TRIBUTARIES, GALLOWAY TRIBUTARIES, AND MORMAN GIRL WASH TRIBUTARIES.
7         ID   FCD CONTRACT #2004C072
8         ID   PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
9         ID   PREPARED BY HDR ENGINEERING-July 2007
10        ID   FILE NAME: E100-24.DAT
11        ID
12        ID   *****
13        ID   100-YEAR, 24-HOUR STORM EVENT
14        ID   MULTIPLE STORM EVENT
15        ID   GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
16        ID   EXISTING LAND USE FROM AERIAL PHOTOGRAPHY
17        ID   *****
18        ID
19        ID
20        ID
21        ID
22        *DIAGRAM
23        IT      2          2000
24        IO      3
25        IN      15
26        JD      4.60    0.01
27        PC      0.000    0.002    0.005    0.008    0.011    0.014    0.017    0.020    0.023    0.026
28        PC      0.029    0.032    0.035    0.038    0.041    0.044    0.048    0.052    0.056    0.060
29        PC      0.064    0.068    0.072    0.076    0.080    0.085    0.090    0.095    0.100    0.105
30        PC      0.110    0.115    0.120    0.126    0.133    0.140    0.147    0.155    0.163    0.172
31        PC      0.181    0.191    0.203    0.218    0.236    0.257    0.283    0.387    0.663    0.707
32        PC      0.735    0.758    0.776    0.791    0.804    0.815    0.825    0.834    0.842    0.849
33        PC      0.856    0.863    0.869    0.875    0.881    0.887    0.893    0.898    0.903    0.908
34        PC      0.913    0.918    0.922    0.926    0.930    0.934    0.938    0.942    0.946    0.950
35        PC      0.953    0.956    0.959    0.962    0.965    0.968    0.971    0.974    0.977    0.980
36        PC      0.983    0.986    0.989    0.992    0.995    0.998    1.000
37        JD      4.324    10
38        JD      4.140    30
39        JD      3.956    60
40        JD      3.892    90
41        JD      3.836    120
42        JD      3.795    150
43        JD      3.680    300
44        JD      3.588    500
44        KK   SUB14B   BASIN
45        BA   0.267
46        *
46        LG      0.35    0.35    7.00    0.12    0
47        UC      0.313    0.300
48        UA      0      3.0    5.0    8.0    12.0    20.0    43.0    75.0    90.0    96.0
49        UA      100
*

```

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

50 KK SUB14C BASIN
 51 BA 0.458
 52 LG 0.35 0.32 7.60 0.10 1
 53 UC 0.279 0.218
 54 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 55 UA 100
 *

56 KK C14C
 57 KM COMBINE SUB-14B, AND SUB-14C
 58 HC 2
 *

59 KK R14C ROUTE REACH
 60 RS 4 FLOW -1
 61 RC 0.053 0.045 0.053 3270 0.0130 246.00
 62 RX 0.0 4.8 9.6 14.5 39.4 78.3 94.4 110.1
 63 RY 246.0 244.0 242.0 240.0 240.0 242.0 244.0 246.0
 *

64 KK SUB14A BASIN
 65 BA 0.180
 66 LG 0.35 0.30 8.00 0.08 3
 67 UC 0.233 0.191
 68 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 69 UA 100
 *

70 KK C14A
 71 KM COMBINE R14C AND SUB-14A
 72 HC 2
 *

73 KK SUB19A BASIN
 74 BA 0.111
 75 LG 0.35 0.32 7.60 0.10 19
 76 UC 0.208 0.201
 77 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 78 UA 100
 *

79 KK SUB19B BASIN
 80 BA 0.257
 81 LG 0.35 0.35 7.00 0.12 29
 82 UC 0.250 0.220
 83 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 84 UA 100
 *

1

HEC-1 INPUT

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

85 KK SUB19C BASIN
 86 BA 0.105
 87 LG 0.35 0.33 7.30 0.11 30
 88 UC 0.204 0.199
 89 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 90 UA 100
 *

91 KK C19C
 92 KM COMBINE C14A, SUB-19A, SUB-19B, AND SUB-19C
 93 HC 4
 *

94 KK R19C ROUTE REACH
 95 RS 5 FLOW -1
 96 RC 0.053 0.045 0.053 4116 0.0114 204.00
 97 RX 0.0 47.6 66.1 87.7 106.8 112.7 131.1 138.9
 98 RY 204.0 202.0 200.0 198.0 198.0 200.0 202.0 204.0
 *

99 KK SUB-13 BASIN
 100 BA 0.541
 101 LG 0.35 0.37 5.20 0.25 4
 102 UC 0.246 0.133
 103 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 104 UA 100
 *

105 KK C13
 106 KM COMBINE R19C AND SUB-13
 107 HC 2
 *

108 KK SUB-18 BASIN
 109 BA 0.385

170 UA 100
 *
 171 KK C33B
 172 KM COMBINE R33D AND SUB33B
 173 HC 2
 *
 174 KK SUB33C BASIN
 175 BA 0.028
 176 LG 0.31 0.15 10.10 0.03 4
 177 UC 0.196 0.223
 178 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 179 UA 100
 *

180 KK C33C
 181 KM COMBINE C33B AND SUB33C
 182 HC 2
 *

183 KK R33C ROUTE REACH
 184 RS 2 FLOW -1
 185 RC 0.053 0.045 0.053 1320 0.0159 158.00
 186 RX 0.0 6.5 14.3 25.5 44.2 52.6 58.3 64.3
 187 RY 158.0 156.0 154.0 152.0 152.0 154.0 156.0 158.0
 *

188 KK SUB33A BASIN
 189 BA 0.055
 190 LG 0.31 0.20 7.00 0.11 7
 191 UC 0.150 0.106
 192 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 193 UA 100
 *

1

HEC-1 INPUT

PAGE 6

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

194 KK C33A
 195 KM COMBINE R33C AND SUB33A
 196 HC 2
 *
 *

197 KK SUB46A BASIN
 198 BA 0.032
 199 LG 0.34 0.31 7.00 0.12 1
 200 UC 0.179 0.217
 201 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 202 UA 100
 *

203 KK SUB46B BASIN
 204 BA 0.031
 205 LG 0.34 0.33 7.00 0.12 1
 206 UC 0.196 0.276
 207 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 208 UA 100
 *

209 KK R46B ROUTE BASIN
 210 RS 1 FLOW -1
 211 RC 0.053 0.045 0.053 564 0.0390 262.00
 212 RX 0.0 8.2 16.6 27.9 50.0 57.9 65.9 73.0
 213 RY 262.0 260.0 258.0 256.0 256.0 258.0 260.0 262.0
 *

214 KK C46
 215 KM COMBINE R46B AND SUB46A
 216 HC 2
 *

217 KK SUB-45 BASIN
 218 BA 0.088
 219 LG 0.34 0.24 9.70 0.05 1
 220 UC 0.267 0.363
 221 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 222 UA 100
 *

223 KK C45
 224 KM COMBINE C46 AND SUB-45
 225 HC 2
 *

226 KK R45 ROUTE REACH
 227 RS 10 FLOW -1
 228 RC 0.053 0.045 0.053 4898 0.0218 192.00
 229 RX 0.0 26.3 64.2 107.1 146.4 157.7 166.9 176.3
 230 RY 192.0 190.0 188.0 186.0 186.0 188.0 190.0 192.0

354 KK C69
 355 KM COMBINE R72, SUB-69, AND HYDRO6
 356 HC 3
 *

357 KK SUB-57 BASIN
 358 BA 0.066
 359 LG 0.33 0.33 5.80 0.19 15
 360 UC 0.158 0.121
 361 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 362 UA 100
 *

363 KK C57
 364 KM COMBINE SUB-57 AND C69
 365 HC 2
 *

366 KK R69 ROUTE REACH
 367 RS 3 FLOW -1
 368 RC 0.053 0.045 0.053 2610 0.0146 972.00
 369 RX 0.0 36.7 77.1 91.0 126.4 146.8 157.7 170.6
 370 RY 972.0 970.0 968.0 966.0 966.0 968.0 970.0 972.0
 *

371 KK SUB-58 BASIN
 372 BA 0.111
 373 LG 0.33 0.33 5.30 0.23 3
 374 UC 0.196 0.163
 375 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 376 UA 100
 *

377 KK R58 ROUTE BASIN
 378 RS 1 FLOW -1
 379 RC 0.053 0.045 0.053 455 0.0132 972.00
 380 RX 0.0 36.7 77.1 91.0 126.4 146.8 157.7 170.6
 381 RY 972.0 970.0 968.0 966.0 966.0 968.0 970.0 972.0
 *

1

HEC-1 INPUT

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

382 KK SUB-59 BASIN
 383 BA 0.082
 384 LG 0.31 0.27 5.00 0.30 10
 385 UC 0.400 0.605
 386 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 387 UA 100
 *

388 KK SUB-60 BASIN
 389 BA 0.092
 390 LG 0.32 0.23 7.00 0.13 9
 391 UC 0.338 0.432
 392 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 393 UA 100
 *

394 KK C60
 395 KM COMBINE R69, R58, SUB-59, SUB-60
 396 HC 4
 *

397 KK R60 ROUTE REACH
 398 RS 1 FLOW -1
 399 RC 0.053 0.045 0.053 420 0.0143 960.00
 400 RX 0.0 42.8 63.6 82.6 106.8 117.5 120.1 182.8
 401 RY 964.0 962.0 960.0 958.0 958.0 960.0 960.0 960.0
 *

402 KK SUB-61 BASIN
 403 BA 0.142
 404 LG 0.31 0.17 7.60 0.10 11
 405 UC 0.396 0.527
 406 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 407 UA 100
 *

408 KK C61
 409 KM COMBINE R60, AND SUB-61
 410 HC 2
 *

411 KK R61 ROUTE REACH
 412 RS 1 FLOW -1
 413 RC 0.053 0.045 0.053 780 0.0103 950.00
 414 RX 0.0 7.4 14.6 36.2 47.1 62.9 69.6 76.4
 415 RY 950.0 948.0 946.0 946.0 946.0 946.0 948.0 950.0
 *

416	KK	SUB-62	BASIN								
417	BA	0.098									
418	LG	0.32	0.22	7.60	0.10	4					
419	UC	0.304	0.332								
420	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
421	UA	100									
	*										

1

HEC-1 INPUT

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

422	KK	SUB-63	BASIN								
423	BA	0.082									
424	LG	0.31	0.18	8.00	0.08	5					
425	UC	0.292	0.351								
426	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
427	UA	100									
	*										

428	KK	HYDRO2									
429	BA	0.001									
430	QI	0	0	0	0	0	0	0	0	0	0
431	QI	0	0	0	0	0	0	0	0	0	0
432	QI	0	0	0	0	0	0	0	0	0	0
433	QI	0	0	0	0	0	0	0	0	0	0
434	QI	0	0	0	0	0	0	0	0	0	0
435	QI	0	0	0	0	0	0	0	0	0	0
436	QI	0	0	0	0	0	0	0	0	0	0
437	QI	0	0	0	0	0	0	0	0	0	0
438	QI	0	0	0	0	0	0	0	0	0	0
439	QI	0	0	0	0	0	0	0	0	0	0
440	QI	0	0	0	0	0	0	0	0	0	0
441	QI	0	0	0	0	0	0	0	0.06	0.21	4.92
442	QI	15.82	42.09	68.3	70.34	82.67	198.46	208.82	193.16	164.98	143.11
443	QI	117.68	107.17	99.98	91.35	87.97	83.27	80.93	76.24	74.23	70.99
444	QI	67.18	63.35	60.23	55.6	37.08	34.4	30.86	27.52	25.07	23.88
445	QI	21.83	19.98	18.41	16.76	15.18	13.65	12.63	11.77	10.72	9.53
446	QI	8.73	8.01	7.35	6.7	6.45	5.83	5.52	5.36	5.1	4.86
447	QI	4.44	4.07	3.9	3.73	3.42	3.17	3.03	2.93	2.79	2.6
448	QI	2.38	2.18	2.12	1.66	1.33	1.44	1.23	1.45	1.4	1.28
449	QI	1.15	1.12	1.02	0.94	0.89	0.82	0.76	0.71	0.67	0.62
450	QI	0.58	0.55	0.55	0.53	0.49	0.48	0.47	0.39	0.37	0.42
451	QI	0.39	0.34	0.33	0.32	0.31	0.3	0.29	0.29	0.28	0.28
452	QI	0.27	0.26	0.25	0.23	0.23	0.22	0.21	0.2	0.19	0.19
453	QI	0.18	0.17	0.16	0.15	0.15	0.14	0.13	0.13	0.12	0.04
454	QI	0.01									
	*										

455	KK	HYDRO3									
456	BA	0.001									
457	QI	0	0	0	0	0	0	0	0	0	0
458	QI	0	0	0	0	0	0	0	0	0	0
459	QI	0	0	0	0	0	0	0	0	0	0
460	QI	0	0	0	0	0	0	0	0	0	0
461	QI	0	0	0	0	0	0	0	0	0	0
462	QI	0	0	0	0	0	0	0	0	0	0
463	QI	0	0	0	0	0	0	0	0	0	0
464	QI	0	0	0	0	0	0	0	0	0	0
465	QI	0	0	0	0	0	0	0	0	0	0
466	QI	0	0	0	0	0	0	0	0	0	0
467	QI	0	0	0	0	0	0	0	0	0	0
468	QI	0	0	0	0	0	0	0	0	1.96	6.05
469	QI	8.11	2.58	3.37	15.16	223.84	553.48	557.89	484.36	405.52	337.86
470	QI	289.58	244.22	200.76	162.35	123.39	96.28	70.95	48.75	36.47	26.05
471	QI	18.93	13.62	9.5	6.39	3.99	2.65	1.3	0.78	0.57	0.37

HEC-1 INPUT

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

472	QI	0.3	0.23	0.17	0.12	0.08	0.05	0.02	0	0	0
473	QI	0	0	0	0	0	0	0	0	0	0
474	QI	0	0	0	0	0	0	0	0	0	0
475	QI	0	0	0	0	0	0	0	0	0	0
476	QI	0	0	0	0	0	0	0	0	0	0
477	QI	0	0	0	0	0	0	0	0	0	0
478	QI	0	0	0	0	0	0	0	0	0	0
479	QI	0	0	0	0	0	0	0	0	0	0
480	QI	0	0	0	0	0	0	0	0	0	0
481	QI	0									
	*										

482	KK	C63									
483	KM	COMBINE	R61, SUB-62, SUB-63, HYDRO2, AND HYDRO3								
484	HC	5									
	*										

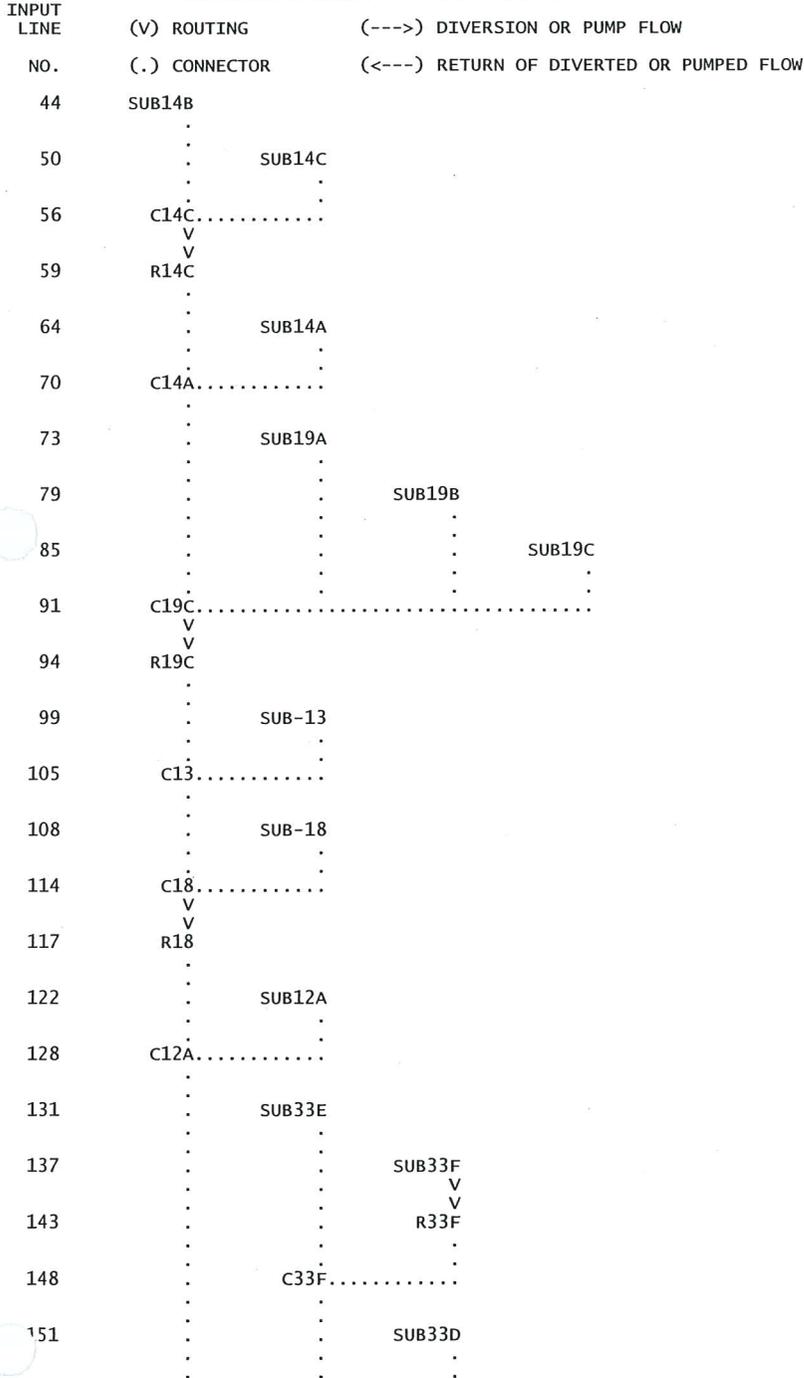
485	KK	R63	ROUTE	REACH							
486	RS	2	FLOW	-1							
487	RC	0.053	0.045	0.053	2145	0.0196	922.00				
488	RX	0.0	4.2	8.2	12.2	36.3	41.2	45.8	50.4		

1

489	RY	922.0	920.0	918.0	916.0	916.0	918.0	920.0	922.0
	*								
490	KK	SUB-64	BASIN						
491	BA	0.071							
492	LG	0.31	0.18	7.30	0.10	4			
493	UC	0.292	0.360						
494	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0
495	UA	100							90.0
	*								96.0
	*								
496	KK	C64							
497	KM	COMBINE R63, AND SUB-64							
498	HC	2							
	*								
499	ZZ								

1

SCHEMATIC DIAGRAM OF STREAM NETWORK



157	C33D.....		
	V		
160	R33D		
	.		
165		SUB33B	
	.		
171	C33B.....		
	.		
174		SUB33C	
	.		
180	C33C.....		
	V		
	V		
183	R33C		
	.		
188		SUB33A	
	.		
194	C33A.....		
	.		
197		SUB46A	
	.		
203			SUB46B
	.		V
209			R46B
	.		
214	C46.....		
	.		
217		SUB-45	
	.		
223	C45.....		
	V		
	V		
226	R45		
	.		
231		SUB-47	
	.		
237	C47.....		
	.		
240		SUB-75	
	.		
246			SUB-76
	.		
252		C76.....	
	.	V	
255		R76	
	.		
260			SUB-73
	.		
266		C73.....	
	.		
269			SUB-74
	.		
275		C74.....	
	.	V	
278		R74	
	.		
283			SUB-71
	.		
289		C71.....	
	.		
292			SUB-70
	.		V
298			R70

+		SUB14B	451.	12.20	47.	12.	4.	.27
+	HYDROGRAPH AT	SUB14C	918.	12.17	86.	22.	8.	.46
+	2 COMBINED AT	C14C	1355.	12.17	132.	33.	12.	.73
+	ROUTED TO	R14C	1297.	12.27	132.	33.	12.	.73
+	HYDROGRAPH AT	SUB14A	397.	12.13	37.	9.	3.	.18
+	2 COMBINED AT	C14A	1584.	12.23	168.	42.	15.	.91
+	HYDROGRAPH AT	SUB19A	243.	12.10	24.	7.	2.	.11
+	HYDROGRAPH AT	SUB19B	531.	12.13	58.	17.	6.	.26
+	HYDROGRAPH AT	SUB19C	233.	12.10	24.	7.	3.	.10
+	4 COMBINED AT	C19C	2437.	12.17	270.	72.	26.	1.38
+	ROUTED TO	R19C	2334.	12.30	270.	72.	26.	1.38
+	HYDROGRAPH AT	SUB-13	1180.	12.13	84.	22.	8.	.54
+	2 COMBINED AT	C13	2909.	12.23	352.	93.	34.	1.92
+	HYDROGRAPH AT	SUB-18	812.	12.17	88.	26.	9.	.38
+	2 COMBINED AT	C18	3640.	12.20	437.	118.	43.	2.30
+	ROUTED TO	R18	3574.	12.23	437.	118.	43.	2.30
+	HYDROGRAPH AT	SUB12A	193.	12.10	19.	5.	2.	.09
+	2 COMBINED AT	C12A	3699.	12.23	454.	123.	45.	2.39
+	HYDROGRAPH AT	SUB33E	448.	12.10	43.	12.	4.	.19
+	HYDROGRAPH AT	SUB33F	50.	12.07	4.	1.	0.	.02
+	ROUTED TO	R33F	49.	12.10	4.	1.	0.	.02
+	2 COMBINED AT	C33F	495.	12.10	47.	13.	5.	.22
+	HYDROGRAPH AT	SUB33D	42.	12.23	6.	2.	1.	.04
+	2 COMBINED AT	C33D	526.	12.10	53.	15.	5.	.25
+	ROUTED TO	R33D	513.	12.17	53.	15.	5.	.25
+	HYDROGRAPH AT	SUB33B	342.	12.13	32.	8.	3.	.16
+	2 COMBINED AT	C33B	832.	12.13	84.	23.	8.	.41
+	HYDROGRAPH AT	SUB33C	63.	12.10	8.	2.	1.	.03
+	2 COMBINED AT	C33C	892.	12.13	92.	25.	9.	.43
+	ROUTED TO	R33C	883.	12.17	92.	25.	9.	.43
+	HYDROGRAPH AT	SUB33A	150.	12.07	12.	3.	1.	.05

	2 COMBINED AT	C33A	969.	12.17	104.	28.	10.	.49
+	HYDROGRAPH AT	SUB46A	68.	12.10	6.	2.	1.	.03
+	HYDROGRAPH AT	SUB46B	58.	12.10	6.	1.	1.	.03
+	ROUTED TO	R46B	57.	12.13	6.	1.	1.	.03
+	2 COMBINED AT	C46	123.	12.10	12.	3.	1.	.06
+	HYDROGRAPH AT	SUB-45	150.	12.17	21.	5.	2.	.09
+	2 COMBINED AT	C45	266.	12.13	32.	8.	3.	.15
+	ROUTED TO	R45	247.	12.37	32.	8.	3.	.15
+	HYDROGRAPH AT	SUB-47	320.	12.17	30.	8.	3.	.18
+	2 COMBINED AT	C47	467.	12.27	62.	16.	6.	.33
+	HYDROGRAPH AT	SUB-75	35.	12.07	3.	1.	0.	.02
+	HYDROGRAPH AT	SUB-76	45.	12.07	4.	1.	0.	.02
+	2 COMBINED AT	C76	80.	12.07	7.	2.	1.	.04
+	ROUTED TO	R76	77.	12.13	7.	2.	1.	.04
+	HYDROGRAPH AT	SUB-73	135.	12.07	12.	3.	1.	.06
+	2 COMBINED AT	C73	208.	12.10	18.	5.	2.	.09
+	HYDROGRAPH AT	SUB-74	350.	12.10	36.	11.	4.	.16
+	2 COMBINED AT	C74	554.	12.10	54.	16.	6.	.25
+	ROUTED TO	R74	539.	12.13	54.	16.	6.	.25
+	HYDROGRAPH AT	SUB-71	86.	12.07	7.	2.	1.	.04
+	2 COMBINED AT	C71	608.	12.13	61.	18.	6.	.28
+	HYDROGRAPH AT	SUB-70	139.	12.13	16.	5.	2.	.07
+	ROUTED TO	R70	139.	12.13	16.	5.	2.	.07
+	HYDROGRAPH AT	SUB-72	337.	12.10	33.	9.	3.	.16
+	2 COMBINED AT	C70	471.	12.13	48.	14.	5.	.23
+	2 COMBINED AT	C72	1072.	12.13	108.	31.	11.	.51
+	ROUTED TO	R72	1018.	12.23	108.	31.	11.	.51
+	HYDROGRAPH AT	SUB-69	963.	12.17	96.	28.	10.	.47
+	HYDROGRAPH AT	HYDR06	1236.	12.40	273.	73.	26.	.00
+	3 COMBINED AT	C69	2903.	12.20	472.	131.	47.	.98
+	HYDROGRAPH AT	SUB-57	166.	12.07	13.	4.	1.	.07

+	2 COMBINED AT	C57	2985.	12.20	484.	134.	48.	1.05
+	ROUTED TO	R69	2914.	12.27	484.	134.	48.	1.05
+	HYDROGRAPH AT	SUB-58	243.	12.10	18.	5.	2.	.11
+	ROUTED TO	R58	238.	12.10	18.	5.	2.	.11
+	HYDROGRAPH AT	SUB-59	86.	12.27	14.	4.	1.	.08
+	HYDROGRAPH AT	SUB-60	133.	12.23	19.	5.	2.	.09
+	4 COMBINED AT	C60	3251.	12.23	533.	147.	53.	1.33
+	ROUTED TO	R60	3251.	12.27	533.	147.	53.	1.33
+	HYDROGRAPH AT	SUB-61	187.	12.27	32.	9.	3.	.14
+	2 COMBINED AT	C61	3431.	12.27	563.	155.	56.	1.47
+	ROUTED TO	R61	3408.	12.30	563.	155.	56.	1.47
+	HYDROGRAPH AT	SUB-62	168.	12.20	21.	5.	2.	.10
+	HYDROGRAPH AT	SUB-63	140.	12.17	19.	5.	2.	.08
+	HYDROGRAPH AT	HYDRO2	209.	12.60	46.	12.	4.	.00
+	HYDROGRAPH AT	HYDRO3	558.	12.60	66.	16.	6.	.00
+	5 COMBINED AT	C63	3744.	12.27	712.	193.	70.	1.66
+	ROUTED TO	R63	3740.	12.33	712.	193.	70.	1.66
+	HYDROGRAPH AT	SUB-64	119.	12.17	16.	4.	1.	.07
+	2 COMBINED AT	C64	3829.	12.33	727.	197.	71.	1.73

*** NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 25JUL07 TIME 09:04:43
*
*****

```

```

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

```

```

X X XXXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXXXX XXXX X XXXXX X
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

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1 ID Project ID: 40933-F6HR - Major Basin: 01 - Return Period: 100 Years
2 ID
3 ID
4 ID CAVECREEK DRAINAGE MASTER PLAN
5 ID FLOODPLAIN DELINEATION STUDY OF CAVECREEK TRIBUTARIES, WILLOW SPRINGS WASH
6 ID TRIBUTARIES, GALLOWAY TRIBUTARIES, AND MORMAN GIRL WASH TRIBUTARIES.
7 ID FCD CONTRACT #2004C072
8 ID PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
9 ID PREPARED BY HDR ENGINEERING-JULY 2007
10 ID FILE NAME: F100-6.DAT
11 ID
12 ID *****
13 ID 100-YEAR, 6-HOUR STORM EVENT
14 ID MULTIPLE STORM EVENT
15 ID GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
16 ID FUTURE LAND USE FROM ZONING MAP
17 ID *****
18 ID
19 ID
20 ID
21 ID *DIAGRAM
22 ID IT 2 2000
23 ID IO 3
24 ID IN 15
25 ID JD 3.40 0.01
26 ID PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
27 ID PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
28 ID PC 0.962 0.972 0.983 0.991 1.000
29 ID JD 3.378 0.50
30 ID PC 0.000 0.008 0.016 0.025 0.033 0.041 0.050 0.058 0.066 0.074
31 ID PC 0.087 0.099 0.118 0.138 0.216 0.377 0.834 0.911 0.931 0.950
32 ID PC 0.962 0.972 0.983 0.991 1.000
33 ID JD 3.314 2.80
34 ID PC 0.000 0.009 0.016 0.025 0.034 0.042 0.051 0.059 0.067 0.076
35 ID PC 0.087 0.100 0.120 0.163 0.252 0.451 0.694 0.837 0.900 0.938
36 ID PC 0.950 0.963 0.975 0.988 1.000
37 ID JD 3.135 16.0
38 ID PC 0.000 0.015 0.020 0.030 0.048 0.063 0.076 0.090 0.105 0.119
39 ID PC 0.135 0.152 0.175 0.222 0.304 0.472 0.670 0.796 0.868 0.912
40 ID PC 0.946 0.960 0.973 0.987 1.000
41 ID JD 2.761 90.0
42 ID PC 0.000 0.021 0.035 0.051 0.071 0.087 0.105 0.125 0.143 0.160
43 ID PC 0.179 0.201 0.232 0.281 0.364 0.500 0.658 0.773 0.841 0.888
44 ID PC 0.927 0.945 0.964 0.982 1.000
45 ID JD 1.938 500.0
46 ID PC 0.000 0.024 0.043 0.059 0.078 0.098 0.119 0.141 0.162 0.186
47 ID PC 0.212 0.239 0.271 0.321 0.408 0.515 0.627 0.735 0.814 0.864
48 ID PC 0.907 0.930 0.954 0.977 1.000
48 KK SUB14B BASIN
49 BA 0.267
*
50 LG 0.30 0.15 7.00 0.11 5
51 UC 0.304 0.291

```

1

52	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
HEC-1 INPUT											
LINE	ID	.....1	.....2	.....3	.....4	.....5	.....6	.....7	.....8	.....9	.....10
53	UA	100									
	*										
54	KK	SUB14C	BASIN								
55	BA	0.458									
56	LG	0.30	0.15	7.60	0.09	6					
57	UC	0.275	0.215								
58	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
59	UA	100									
	*										

60	KK	C14C									
61	KM	COMBINE	SUB-14B, AND SUB-14C								
62	HC	2									
	*										
63	KK	R14C	ROUTE	REACH							
64	RS	4	FLOW	-1							
65	RC	0.053	0.045	0.053	3270	0.0130	246.00				
66	RX	0.0	4.8	9.6	14.5	39.4	78.3	94.4	110.1		
67	RY	246.0	244.0	242.0	240.0	240.0	242.0	244.0	246.0		
	*										
68	KK	SUB14A	BASIN								
69	BA	0.180									
70	LG	0.30	0.15	8.00	0.08	8					
71	UC	0.229	0.187								
72	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
73	UA	100									
	*										

74	KK	C14A									
75	KM	COMBINE	R14C AND SUB-14A								
76	HC	2									
	*										
77	KK	SUB19A	BASIN								
78	BA	0.111									
79	LG	0.30	0.15	7.60	0.09	24					
80	UC	0.208	0.201								
81	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
82	UA	100									
	*										

83	KK	SUB19B	BASIN								
84	BA	0.257									
85	LG	0.32	0.24	7.00	0.11	31					
86	UC	0.246	0.216								
87	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
88	UA	100									
	*										

1

HEC-1 INPUT											
LINE	ID	.....1	.....2	.....3	.....4	.....5	.....6	.....7	.....8	.....9	.....10
89	KK	SUB19C	BASIN								
90	BA	0.105									
91	LG	0.30	0.16	7.30	0.10	35					
92	UC	0.200	0.195								
93	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
94	UA	100									
	*										
95	KK	C19C									
96	KM	COMBINE	C14A, SUB-19A, SUB-19B, AND SUB-19C								
97	HC	4									
	*										
98	KK	R19C	ROUTE	REACH							
99	RS	5	FLOW	-1							
100	RC	0.053	0.045	0.053	4116	0.0114	204.00				
101	RX	0.0	47.6	66.1	87.7	106.8	112.7	131.1	138.9		
102	RY	204.0	202.0	200.0	198.0	198.0	200.0	202.0	204.0		
	*										
103	KK	SUB-13	BASIN								
104	BA	0.541									
105	LG	0.30	0.25	5.20	0.23	9					
106	UC	0.242	0.131								
107	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
108	UA	100									
	*										
109	KK	C13									
110	KM	COMBINE	R19C, AND SUB-13								
111	HC	2									

*
 112 KK SUB-18 BASIN
 113 BA 0.385
 114 LG 0.31 0.19 7.30 0.10 34
 115 UC 0.267 0.200
 116 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 117 UA 100
 *

118 KK C18
 119 KM COMBINE C13, AND SUB-18
 120 HC 2
 *

121 KK R18 ROUTE REACH
 122 RS 1 FLOW -1
 123 RC 0.053 0.045 0.053 2572 0.0233 146.00
 124 RX 0.0 2.6 5.9 9.9 20.8 24.7 27.3 30.4
 125 RY 146.0 144.0 142.0 140.0 140.0 142.0 144.0 146.0
 *

1

HEC-1 INPUT

PAGE 4

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

126 KK SUB12A BASIN
 127 BA 0.089
 128 LG 0.30 0.19 6.60 0.13 25
 129 UC 0.192 0.190
 130 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 131 UA 100
 *

132 KK C12A
 133 KM COMBINE R18 AND SUB12A
 134 HC 2
 *

135 KK SUB33E BASIN
 136 BA 0.194
 137 LG 0.30 0.17 6.80 0.12 30
 138 UC 0.213 0.157
 139 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 140 UA 100
 *

141 KK SUB33F BASIN
 142 BA 0.021
 143 LG 0.30 0.17 6.80 0.12 5
 144 UC 0.150 0.168
 145 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 146 UA 100
 *

147 KK R33F ROUTE BASIN
 148 RS 1 FLOW -1
 149 RC 0.053 0.045 0.053 477 0.0168 192.00
 150 RX 0.0 15.0 30.0 40.5 41.5 52.5 73.7 108.0
 151 RY 192.0 191.0 190.0 188.0 188.0 190.0 190.2 192.0
 *

152 KK C33F
 153 KM COMBINE R33F AND SUB33E
 154 HC 2
 *

155 KK SUB33D BASIN
 156 BA 0.035
 157 LG 0.30 0.25 5.70 0.19 7
 158 UC 0.325 0.477
 159 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 160 UA 100
 *

1

HEC-1 INPUT

PAGE 5

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

161 KK C33D
 162 KM COMBINE C33F AND SUB33D
 163 HC 2
 *

164 KK R33D ROUTE REACH
 165 RS 4 FLOW -1
 166 RC 0.053 0.045 0.053 1637 0.0104 188.00
 167 RX 0.0 49.3 60.6 71.9 83.0 133.7 175.9 214.2
 168 RY 188.0 186.0 184.0 182.0 182.0 184.0 186.0 188.0
 *

169 KK SUB33B BASIN

170	BA	0.155										
171	LG	0.30		7.30	0.10	5						
172	UC	0.213	0.181									
173	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
174	UA	100										
	*											

175	KK	C33B										
176	KM	COMBINE	R33D AND SUB33B									
177	HC	2										
	*											

178	KK	SUB33C	BASIN									
179	BA	0.028										
180	LG	0.30	0.13	10.10	0.03	5						
181	UC	0.192	0.218									
182	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
183	UA	100										
	*											

184	KK	C33C										
185	KM	COMBINE	C33B AND SUB33C									
186	HC	2										
	*											

187	KK	R33C	ROUTE	REACH								
188	RS	2	FLOW	-1								
189	RC	0.053	0.045	0.053	1320	0.0159	158.00					
190	RX	0.0	6.5	14.3	25.5	44.2	52.6	58.3	64.3			
191	RY	158.0	156.0	154.0	152.0	152.0	154.0	156.0	158.0			
	*											

192	KK	SUB33A	BASIN									
193	BA	0.055										
194	LG	0.30	0.15	7.00	0.11	8						
195	UC	0.142	0.100									
196	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
197	UA	100										
	*											

1

HEC-1 INPUT

PAGE 6

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

198	KK	C33A										
199	KM	COMBINE	R33C AND SUB33A									
200	HC	2										
	*											

201	KK	SUB46A	BASIN									
202	BA	0.032										
203	LG	0.30	0.15	7.00	0.11	5						
204	UC	0.171	0.206									
205	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
206	UA	100										
	*											

207	KK	SUB46B	BASIN									
208	BA	0.031										
209	LG	0.30	0.15	7.00	0.11	5						
210	UC	0.188	0.263									
211	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
212	UA	100										
	*											

213	KK	R46B	ROUTE	BASIN								
214	RS	1	FLOW	-1								
215	RC	0.053	0.045	0.053	564	0.0390	262.00					
216	RX	0.0	8.2	16.6	27.9	50.0	57.9	65.9	73.0			
217	RY	262.0	260.0	258.0	256.0	256.0	258.0	260.0	262.0			
	*											

218	KK	C46										
219	KM	COMBINE	R46B AND SUB46A									
220	HC	2										
	*											

221	KK	SUB-45	BASIN									
222	BA	0.088										
223	LG	0.30	0.15	9.70	0.04	5						
224	UC	0.258	0.350									
225	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
226	UA	100										
	*											

227	KK	C45										
228	KM	COMBINE	C46 AND SUB-45									
229	HC	2										
	*											

230	KK	R45	ROUTE	REACH								
-----	----	-----	-------	-------	--	--	--	--	--	--	--	--

231	RS	10	FLOW	-1									
232	RC	0.053	0.045	0.053	4898	0.0218	192.00						
233	RX	0.0	26.3	64.2	107.1	146.4	157.7	166.9	176.3				
234	RY	192.0	190.0	188.0	186.0	186.0	188.0	190.0	192.0				

1

HEC-1 INPUT

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

235	KK	SUB-47	BASIN										
236	BA	0.178											
237	LG	0.30	0.25	5.40	0.21	5							
238	UC	0.275	0.240										
239	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0		
240	UA	100											

241	KK	C47											
242	KM	COMBINE R45 AND SUB47											
243	HC	2											

244	KK	SUB-75	BASIN										
245	BA	0.016											
246	LG	0.23	0.25	6.00	0.22	54							
247	UC	0.133	0.176										
248	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0		
249	UA	100											

250	KK	SUB-76	BASIN										
251	BA	0.020											
252	LG	0.26	0.25	5.20	0.31	30							
253	UC	0.138	0.160										
254	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0		
255	UA	100											

256	KK	C76											
257	KM	COMBINE SUB-75, AND SUB-76											
258	HC	2											

259	KK	R76	ROUTE	REACH									
260	RS	3	FLOW	-1									
261	RC	0.053	0.045	0.053	919	0.0152	114.00						
262	RX	0.0	44.9	63.2	67.9	71.3	107.2	136.4	159.2				
263	RY	114.0	112.0	110.0	108.0	108.0	110.0	112.0	114.0				

264	KK	SUB-73	BASIN										
265	BA	0.056											
266	LG	0.28	0.19	6.60	0.17	47							
267	UC	0.167	0.155										
268	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0		
269	UA	100											

1

HEC-1 INPUT

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

270	KK	C73											
271	KM	COMBINE R76 AND SUB-73											
272	HC	2											

273	KK	SUB-74	BASIN										
274	BA	0.156											
275	LG	0.29	0.17	6.80	0.14	37							
276	UC	0.208	0.176										
277	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0		
278	UA	100											

279	KK	C74											
280	KM	COMBINE C73 AND SUB-74											
281	HC	2											

282	KK	R74	ROUTE	REACH									
283	RS	2	FLOW	-1									
284	RC	0.053	0.045	0.053	1412	0.0212	92.00						
285	RX	0.0	25.4	69.1	79.9	84.8	92.1	99.9	130.3				
286	RY	92.0	90.0	88.0	86.0	86.0	88.0	90.0	92.0				

287	KK	SUB-71	BASIN										
288	BA	0.035											
289	LG	0.28	0.19	6.60	0.17	43							


```

*
412      KK  SUB-64  BASIN
413      BA  0.071
414      LG  0.30   0.15   7.30   0.10   5
415      UC  0.279  0.343
416      UA   0     3.0    5.0    8.0    12.0   20.0   43.0   75.0   90.0   96.0
417      UA  100
*

```

1

HEC-1 INPUT

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

```

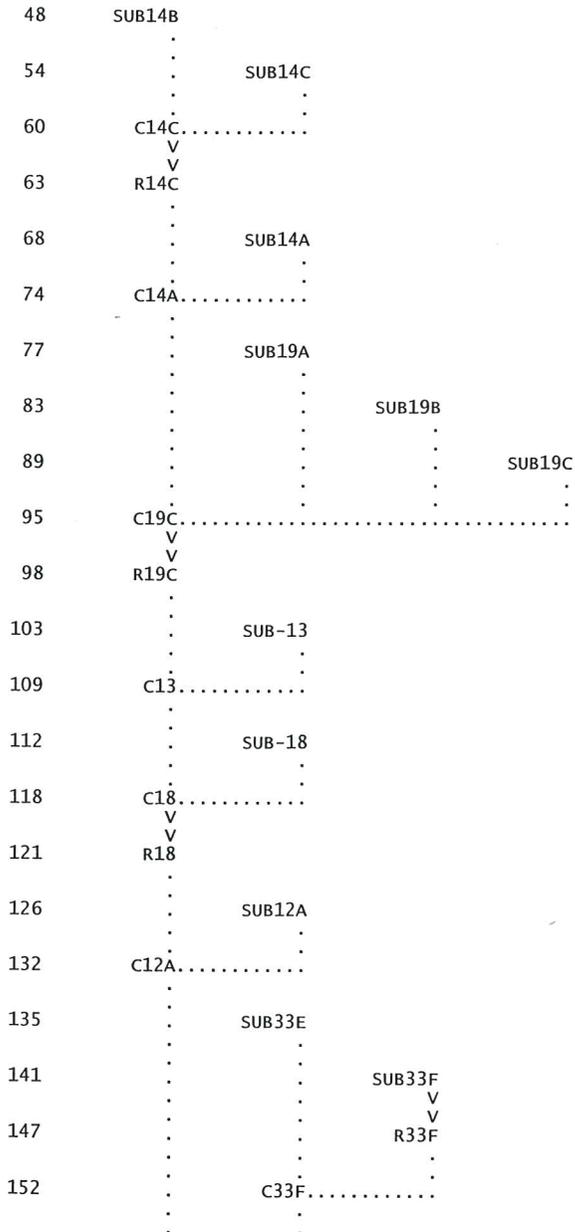
418      KK  C64
419      KM  COMBINE R63, AND SUB-64
420      HC  2
*
421      ZZ

```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW
 NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW



155	.	.	SUB33D	.
161	.	C33D.....	.	.
	.	V	.	.
	.	V	.	.
164	.	R33D	.	.
169	.	.	SUB33B	.
175	.	C33B.....	.	.
178	.	.	SUB33C	.
184	.	C33C.....	.	.
	.	V	.	.
	.	V	.	.
187	.	R33C	.	.
192	.	.	SUB33A	.
198	.	C33A.....	.	.
201	.	.	SUB46A	.
207	.	.	.	SUB46B
	.	.	.	V
	.	.	.	V
213	.	.	R46B	.
218	.	C46.....	.	.
221	.	.	SUB-45	.
227	.	C45.....	.	.
	.	V	.	.
	.	V	.	.
230	.	R45	.	.
235	.	.	SUB-47	.
241	.	C47.....	.	.
244	.	.	SUB-75	.
250	.	.	.	SUB-76
256	.	C76.....	.	.
	.	V	.	.
	.	V	.	.
259	.	R76	.	.
264	.	.	SUB-73	.
270	.	C73.....	.	.
273	.	.	SUB-74	.
279	.	C74.....	.	.
	.	V	.	.
	.	V	.	.
282	.	R74	.	.
287	.	.	SUB-71	.
293	.	C71.....	.	.
6	.	.	SUB-70	.
	.	.	V	.

+		C14C	1640.	4.17	175.	44.	16.	.73
	ROUTED TO							
		R14C	1588.	4.23	174.	44.	16.	.73
	HYDROGRAPH AT							
+		SUB14A	504.	4.13	45.	11.	4.	.18
	2 COMBINED AT							
+		C14A	1841.	4.23	217.	54.	20.	.91
	HYDROGRAPH AT							
+		SUB19A	308.	4.10	30.	7.	3.	.11
	HYDROGRAPH AT							
+		SUB19B	675.	4.13	68.	17.	6.	.26
	HYDROGRAPH AT							
+		SUB19C	298.	4.10	29.	7.	3.	.10
	4 COMBINED AT							
+		C19C	2554.	4.17	337.	84.	30.	1.38
	ROUTED TO							
+		R19C	2481.	4.30	337.	84.	30.	1.38
	HYDROGRAPH AT							
+		SUB-13	1521.	4.13	114.	28.	10.	.54
	2 COMBINED AT							
+		C13	2958.	4.23	436.	109.	39.	1.92
	HYDROGRAPH AT							
+		SUB-18	1043.	4.13	105.	26.	10.	.38
	2 COMBINED AT							
+		C18	3468.	4.20	533.	134.	48.	2.30
	ROUTED TO							
+		R18	3435.	4.23	533.	134.	48.	2.30
	HYDROGRAPH AT							
+		SUB12A	250.	4.10	23.	6.	2.	.09
	2 COMBINED AT							
+		C12A	3528.	4.23	554.	139.	50.	2.39
	HYDROGRAPH AT							
+		SUB33E	579.	4.10	52.	13.	5.	.19
	HYDROGRAPH AT							
+		SUB33F	62.	4.07	5.	1.	0.	.02
	ROUTED TO							
+		R33F	60.	4.10	5.	1.	0.	.02
	2 COMBINED AT							
+		C33F	639.	4.10	57.	14.	5.	.22
	HYDROGRAPH AT							
+		SUB33D	56.	4.20	8.	2.	1.	.04
	2 COMBINED AT							
+		C33D	683.	4.10	64.	16.	6.	.25
	ROUTED TO							
+		R33D	668.	4.17	64.	16.	6.	.25
	HYDROGRAPH AT							
+		SUB33B	436.	4.10	38.	9.	3.	.16
	2 COMBINED AT							
+		C33B	1082.	4.13	102.	26.	9.	.41
	HYDROGRAPH AT							
+		SUB33C	78.	4.10	8.	2.	1.	.03
	2 COMBINED AT							
+		C33C	1158.	4.13	110.	27.	10.	.43
	ROUTED TO							
+		R33C	1146.	4.17	110.	27.	10.	.43
	HYDROGRAPH AT							
+		SUB33A	186.	4.07	13.	3.	1.	.05
	2 COMBINED AT							
+		C33A	1252.	4.13	123.	31.	11.	.49
	HYDROGRAPH AT							
		SUB46A	87.	4.10	8.	2.	1.	.03

+	HYDROGRAPH AT	SUB46B	76.	4.10	7.	2.	1.	.03
+	ROUTED TO	R46B	75.	4.13	7.	2.	1.	.03
+	2 COMBINED AT	C46	161.	4.10	15.	4.	1.	.06
+	HYDROGRAPH AT	SUB-45	191.	4.17	23.	6.	2.	.09
+	2 COMBINED AT	C45	345.	4.13	38.	10.	3.	.15
+	ROUTED TO	R45	321.	4.33	38.	10.	3.	.15
+	HYDROGRAPH AT	SUB-47	410.	4.17	37.	9.	3.	.18
+	2 COMBINED AT	C47	625.	4.23	75.	19.	7.	.33
+	HYDROGRAPH AT	SUB-75	48.	4.07	5.	1.	0.	.02
+	HYDROGRAPH AT	SUB-76	58.	4.07	5.	1.	0.	.02
+	2 COMBINED AT	C76	105.	4.07	9.	2.	1.	.04
+	ROUTED TO	R76	101.	4.10	9.	2.	1.	.04
+	HYDROGRAPH AT	SUB-73	171.	4.07	16.	4.	1.	.06
+	2 COMBINED AT	C73	271.	4.10	25.	6.	2.	.09
+	HYDROGRAPH AT	SUB-74	451.	4.10	43.	11.	4.	.16
+	2 COMBINED AT	C74	720.	4.10	68.	17.	6.	.25
+	ROUTED TO	R74	702.	4.13	68.	17.	6.	.25
+	HYDROGRAPH AT	SUB-71	109.	4.07	10.	2.	1.	.04
+	2 COMBINED AT	C71	794.	4.13	78.	19.	7.	.28
+	HYDROGRAPH AT	SUB-70	178.	4.13	19.	5.	2.	.07
+	ROUTED TO	R70	177.	4.13	19.	5.	2.	.07
+	HYDROGRAPH AT	SUB-72	435.	4.10	41.	10.	4.	.16
+	2 COMBINED AT	C70	608.	4.13	60.	15.	5.	.23
+	2 COMBINED AT	C72	1393.	4.13	137.	34.	12.	.51
+	ROUTED TO	R72	1328.	4.20	137.	34.	12.	.51
+	HYDROGRAPH AT	SUB-69	1235.	4.13	114.	29.	10.	.47
+	2 COMBINED AT	C69	2126.	4.17	244.	61.	22.	.98
+	HYDROGRAPH AT	SUB-57	211.	4.07	15.	4.	1.	.07
+	2 COMBINED AT	C57	2201.	4.17	258.	65.	23.	1.05
+	ROUTED TO	R69	2152.	4.23	258.	65.	23.	1.05
+	HYDROGRAPH AT	SUB-58	310.	4.10	23.	6.	2.	.11

	ROUTED TO	R58	305.	4.10	23.	6.	2.	.11
+	HYDROGRAPH AT	SUB-59	108.	4.27	17.	4.	2.	.08
+	HYDROGRAPH AT	SUB-60	168.	4.20	22.	6.	2.	.09
+	4 COMBINED AT	C60	2404.	4.23	314.	79.	28.	1.33
+	ROUTED TO	R60	2397.	4.23	314.	79.	28.	1.33
+	HYDROGRAPH AT	SUB-61	233.	4.27	36.	9.	3.	.14
+	2 COMBINED AT	C61	2515.	4.23	346.	87.	31.	1.47
+	ROUTED TO	R61	2508.	4.27	346.	87.	31.	1.47
+	HYDROGRAPH AT	SUB-62	224.	4.17	26.	6.	2.	.10
+	HYDROGRAPH AT	SUB-63	183.	4.17	22.	5.	2.	.08
+	3 COMBINED AT	C63	2708.	4.27	390.	98.	35.	1.65
+	ROUTED TO	R63	2696.	4.30	390.	98.	35.	1.65
+	HYDROGRAPH AT	SUB-64	149.	4.17	17.	4.	2.	.07
+	2 COMBINED AT	C64	2765.	4.30	405.	102.	37.	1.72

NORMAL END OF HEC-1 ***

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 25JUL07 TIME 09:28:58
*
*****

```

```

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

```

```

X X XXXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXXXX XXXX X XXXXX X
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 -AMSK- 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 Project ID: 40933-F24HR - Major Basin: 01 - Return Period: 100 Years
2 ID
3 ID
4 ID CAVECREEK DRAINAGE MASTER PLAN
5 ID FLOODPLAIN DELINEATION STUDY OF CAVECREEK TRIBUTARIES, WILLOW SPRINGS WASH
6 ID TRIBUTARIES, GALLOWAY TRIBUTARIES, AND MORMAN GIRL WASH TRIBUTARIES.
7 ID FCD CONTRACT #2004C072
8 ID PREPARED FOR FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
9 ID PREPARED BY HDR ENGINEERING-JULY 2007
10 ID FILE NAME: F100-24.DAT
11 ID
12 ID *****
13 ID 100-YEAR, 24-HOUR STORM EVENT
14 ID MULTIPLE STORM EVENT
15 ID GREEN-AMPT LOSS METHOD, CLARK UNIT HYDROGRAPH
16 ID FUTURE LAND USE FROM ZONING MAP
17 ID *****
18 ID
19 ID
20 ID
21 ID *DIAGRAM
22 ID IT 2 2000
23 ID IO 3
24 ID IN 15
25 ID JD 4.60 0.01
26 ID PC 0.000 0.002 0.005 0.008 0.011 0.014 0.017 0.020 0.023 0.026
27 ID PC 0.029 0.032 0.035 0.038 0.041 0.044 0.048 0.052 0.056 0.060
28 ID PC 0.064 0.068 0.072 0.076 0.080 0.085 0.090 0.095 0.100 0.105
29 ID PC 0.110 0.115 0.120 0.126 0.133 0.140 0.147 0.155 0.163 0.172
30 ID PC 0.181 0.191 0.203 0.218 0.236 0.257 0.283 0.387 0.663 0.707
31 ID PC 0.735 0.758 0.776 0.791 0.804 0.815 0.825 0.834 0.842 0.849
32 ID PC 0.856 0.863 0.869 0.875 0.881 0.887 0.893 0.898 0.903 0.908
33 ID PC 0.913 0.918 0.922 0.926 0.930 0.934 0.938 0.942 0.946 0.950
34 ID PC 0.953 0.956 0.959 0.962 0.965 0.968 0.971 0.974 0.977 0.980
35 ID PC 0.983 0.986 0.989 0.992 0.995 0.998 1.000
36 ID JD 4.324 10
37 ID JD 4.140 30
38 ID JD 3.956 60
39 ID JD 3.892 90
40 ID JD 3.836 120
41 ID JD 3.795 150
42 ID JD 3.680 300
43 ID JD 3.588 500
44 ID KK SUB14B BASIN
45 ID BA 0.267
46 ID *
47 ID LG 0.30 0.15 7.00 0.11 5
48 ID UC 0.321 0.309
49 ID UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
50 ID UA 100
51 ID *

```

HEC-1 INPUT

PAGE 2

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

49 KK SUB14C BASIN
 50 BA 0.458
 51 LG 0.30 0.15 7.60 0.09 6
 52 UC 0.292 0.229
 53 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 54 UA 100
 *

55 KK C14C
 56 KM COMBINE SUB-14B, AND SUB-14C
 57 HC 2
 *

58 KK R14C ROUTE REACH
 59 RS 4 FLOW -1
 60 RC 0.053 0.045 0.053 3270 0.0130 246.00
 61 RX 0.0 4.8 9.6 14.5 39.4 78.3 94.4 110.1
 62 RY 246.0 244.0 242.0 240.0 240.0 242.0 244.0 246.0
 *

63 KK SUB14A BASIN
 64 BA 0.180
 65 LG 0.30 0.15 8.00 0.08 8
 66 UC 0.242 0.198
 67 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 68 UA 100
 *

69 KK C14A
 70 KM COMBINE R14C AND SUB-14A
 71 HC 2
 *

72 KK SUB19A BASIN
 73 BA 0.111
 74 LG 0.30 0.15 7.60 0.09 24
 75 UC 0.217 0.210
 76 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 77 UA 100
 *

78 KK SUB19B BASIN
 79 BA 0.257
 80 LG 0.32 0.24 7.00 0.11 31
 81 UC 0.258 0.229
 82 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 83 UA 100
 *

HEC-1 INPUT

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

84 KK SUB19C BASIN
 85 BA 0.105
 86 LG 0.30 0.16 7.30 0.10 35
 87 UC 0.213 0.208
 88 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 89 UA 100
 *

90 KK C19C
 91 KM COMBINE C14A, SUB-19A, SUB-19B, AND SUB-19C
 92 HC 4
 *

93 KK R19C ROUTE REACH
 94 RS 5 FLOW -1
 95 RC 0.053 0.045 0.053 4116 0.0114 204.00
 96 RX 0.0 47.6 66.1 87.7 106.8 112.7 131.1 138.9
 97 RY 204.0 202.0 200.0 198.0 198.0 200.0 202.0 204.0
 *

98 KK SUB-13 BASIN
 99 BA 0.541
 100 LG 0.30 0.25 5.20 0.23 9
 101 UC 0.250 0.136
 102 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 103 UA 100
 *

104 KK C13
 105 KM COMBINE R19C AND SUB-13
 106 HC 2
 *

107 KK SUB-18 BASIN
 108 BA 0.385
 109 LG 0.31 0.19 7.30 0.10 34

170 KK C33B
 171 KM COMBINE R33D AND SUB33B
 172 HC 2
 *

173 KK SUB33C BASIN
 174 BA 0.028
 175 LG 0.30 0.13 10.10 0.03 5
 176 UC 0.200 0.229
 177 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 178 UA 100
 *

179 KK C33C
 180 KM COMBINE C33B AND SUB33C
 181 HC 2
 *

182 KK R33C ROUTE REACH
 183 RS 2 FLOW -1
 184 RC 0.053 0.045 0.053 1320 0.0159 158.00
 185 RX 0.0 6.5 14.3 25.5 44.2 52.6
 186 RY 158.0 156.0 154.0 152.0 152.0 154.0 156.0 158.0
 *

187 KK SUB33A BASIN
 188 BA 0.055
 189 LG 0.30 0.15 7.00 0.11 8
 190 UC 0.146 0.103
 191 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 192 UA 100
 *

1

HEC-1 INPUT

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

193 KK C33A
 194 KM COMBINE R33C AND SUB33A
 195 HC 2
 *

196 KK SUB46A BASIN
 197 BA 0.032
 198 LG 0.30 0.15 7.00 0.11 5
 199 UC 0.179 0.217
 200 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 201 UA 100
 *

202 KK SUB46B BASIN
 203 BA 0.031
 204 LG 0.30 0.15 7.00 0.11 5
 205 UC 0.196 0.276
 206 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 207 UA 100
 *

208 KK R46B ROUTE BASIN
 209 RS 1 FLOW -1
 210 RC 0.053 0.045 0.053 564 0.0390 262.00
 211 RX 0.0 8.2 16.6 27.9 50.0 57.9
 212 RY 262.0 260.0 258.0 256.0 256.0 258.0 260.0 262.0
 *

213 KK C46
 214 KM COMBINE R46B AND SUB46A
 215 HC 2
 *

216 KK SUB-45 BASIN
 217 BA 0.088
 218 LG 0.30 0.15 9.70 0.04 5
 219 UC 0.271 0.369
 220 UA 0 3.0 5.0 8.0 12.0 20.0 43.0 75.0 90.0 96.0
 221 UA 100
 *

222 KK C45
 223 KM COMBINE C46 AND SUB-45
 224 HC 2
 *

225 KK R45 ROUTE REACH
 226 RS 10 FLOW -1
 227 RC 0.053 0.045 0.053 4898 0.0218 192.00
 228 RX 0.0 26.3 64.2 107.1 146.4 157.7
 229 RY 192.0 190.0 188.0 186.0 186.0 188.0 190.0 192.0
 *

LINE	ID	1	2	3	4	5	6	7	8	9	10
230	KK	SUB-47 BASIN									
231	BA	0.178									
232	LG	0.30	0.25	5.40	0.21	5					
233	UC	0.292	0.256								
234	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
235	UA	100									
	*										
236	KK	C47									
237	KM	COMBINE R45 AND SUB47									
238	HC	2									
	*										
239	KK	SUB-75 BASIN									
240	BA	0.016									
241	LG	0.23	0.25	6.00	0.22	54					
242	UC	0.142	0.188								
243	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
244	UA	100									
	*										
245	KK	SUB-76 BASIN									
246	BA	0.020									
247	LG	0.26	0.25	5.20	0.31	30					
248	UC	0.146	0.171								
249	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
250	UA	100									
	*										
251	KK	C76									
252	KM	COMBINE SUB-75, AND SUB-76									
253	HC	2									
	*										
254	KK	R76	ROUTE	REACH							
255	RS	3	FLOW	-1							
256	RC	0.053	0.045	0.053	919	0.0152	114.00				
257	RX	0.0	44.9	63.2	67.9	71.3	107.2	136.4	159.2		
258	RY	114.0	112.0	110.0	108.0	108.0	110.0	112.0	114.0		
	*										
259	KK	SUB-73 BASIN									
260	BA	0.056									
261	LG	0.28	0.19	6.60	0.17	47					
262	UC	0.175	0.164								
263	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
264	UA	100									
	*										

LINE	ID	1	2	3	4	5	6	7	8	9	10
265	KK	C73									
266	KM	COMBINE R76 AND SUB-73									
267	HC	2									
	*										
268	KK	SUB-74 BASIN									
269	BA	0.156									
270	LG	0.29	0.17	6.80	0.14	37					
271	UC	0.221	0.188								
272	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
273	UA	100									
	*										
274	KK	C74									
275	KM	COMBINE C73 AND SUB-74									
276	HC	2									
	*										
277	KK	R74	ROUTE	REACH							
278	RS	2	FLOW	-1							
279	RC	0.053	0.045	0.053	1412	0.0212	92.00				
280	RX	0.0	25.4	69.1	79.9	84.8	92.1	99.9	130.3		
281	RY	92.0	90.0	88.0	86.0	86.0	88.0	90.0	92.0		
	*										
282	KK	SUB-71 BASIN									
283	BA	0.035									
284	LG	0.28	0.19	6.60	0.17	43					
285	UC	0.158	0.158								
286	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
287	UA	100									
	*										

288	KK	C71										
289	KM	COMBINE R74 AND SUB-71										
290	HC	2										
	*											
291	KK	SUB-70	BASIN									
292	BA	0.072										
293	LG	0.30	0.19	6.60	0.14	28						
294	UC	0.217	0.267									
295	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
296	UA	100										
	*											
297	KK	R70	ROUTE	BASIN								
298	RS	1	FLOW	-1								
299	RC	0.053	0.045	0.053	403	0.0546	92.00					
300	RX	0.0	10.7	21.5	44.3	64.8	88.0	122.0	149.0			
301	RY	92.0	90.0	88.0	86.0	86.0	88.0	90.0	92.0			
	*											

1

HEC-1 INPUT

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

302	KK	SUB-72	BASIN									
303	BA	0.155										
304	LG	0.29	0.19	6.60	0.14	30						
305	UC	0.221	0.192									
306	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
307	UA	100										
	*											

308	KK	C70										
309	KM	COMBINE R70 AND SUB-72										
310	HC	2										
	*											

311	KK	C72										
312	KM	COMBINE C70 AND C71										
313	HC	2										
	*											

314	KK	R72	ROUTE	REACH								
315	RS	4	FLOW	-1								
316	RC	0.053	0.045	0.053	3492	0.0218	6.00					
317	RX	0.0	21.3	57.8	75.7	77.8	85.0	92.5	99.9			
318	RY	5.0	4.0	2.0	0.0	0.0	2.0	4.0	6.0			
	*											

319	KK	SUB-69	BASIN									
320	BA	0.471										
321	LG	0.30	0.25	6.00	0.18	25						
322	UC	0.279	0.202									
323	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0	
324	UA	100										
	*											

325

IN 6

326	KK	HYDRO6										
327	BA	0.001										
328	QI	0	0	0	0	0	0	0	0	0	0	0
329	QI	0	0	0	0	0	0	0	0	0	0	0
330	QI	0	0	0	0	0	0	0	0	0	0	0
331	QI	0	0	0	0	0	0	0	0	0	0	0
332	QI	0	0	0	0	0	0	0	0	0	0	0
333	QI	0	0	0	0	0	0	0	0	0	0	0
334	QI	0	0	0	0	0	0	0	0	0	0	0
335	QI	0	0	0	0	0	0	0	0	0	0	0
336	QI	0	0	0	0	0	0	0	0	0	0	0
337	QI	0	0	0	0	0.59	2.27	2.61	2.85	2.95	3.1	
338	QI	3.29	3.52	3.71	3.83	4.02	4.18	4.39	4.72	5.19	5.7	
339	QI	6.56	10.56	20.2	25.52	30.32	33.97	41.23	69.55	206.95	363.49	
340	QI	608.08	767.6	995.12	1056.41	1235.54	1198.32	1078.59	945.57	854.97	782.6	
341	QI	718.04	626	525.97	440.05	378.58	326.95	282.22	247.17	216.01	191.48	
342	QI	170.93	153.54	139.24	126.93	116.2	107.13	98.18	91.55	85.28	79.28	
343	QI	73.58	67.19	63.42	60.18	57.37	54.61	52.49	49.38	46.2	42.9	
344	QI	40.71	38.54	37.29	34.88	33.38	32.08	30.76	29.61	28.8	27.6	

HEC-1 INPUT

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

345	QI	26.45	25.96	25.16	24.41	24.09	23.51	22.7	22.33	22.02	21.29	
346	QI	20.86	20.15	19.6	19.19	18.52	18.22	17.76	17.28	16.92	16.81	
347	QI	16.34	16	15.86	15.66	15.57	15.26	14.94	14.65	14.44	14.21	
348	QI	14.08	13.7	13.42	13.02	12.69	12.44	12.24	12.11	12	11.91	
349	QI	11.67	11.61	11.38	11.28	11.04	10.94	10.72	10.44	10.16	9.79	
350	QI	9.67	9.43	9.27	9.04	8.84	8.76	8.62	8.52	8.44	8.37	
351	QI	8.32	8.24	8.18	8.13	8.08	8	7.99	8	8	7.99	
352	QI	0.1										
	*											

1

415	KK	SUB-62	BASIN								
416	BA	0.098									
417	LG	0.26	0.15	7.60	0.10	20					
418	UC	0.296	0.322								
419	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
420	UA	100									
	*										

1

HEC-1 INPUT

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

421	KK	SUB-63	BASIN								
422	BA	0.082									
423	LG	0.27	0.15	8.00	0.08	16					
424	UC	0.288	0.345								
425	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
426	UA	100									
	*										

427	KK	HYDRO2									
428	BA	0.001									
429	QI	0	0	0	0	0	0	0	0	0	0
430	QI	0	0	0	0	0	0	0	0	0	0
431	QI	0	0	0	0	0	0	0	0	0	0
432	QI	0	0	0	0	0	0	0	0	0	0
433	QI	0	0	0	0	0	0	0	0	0	0
434	QI	0	0	0	0	0	0	0	0	0	0
435	QI	0	0	0	0	0	0	0	0	0	0
436	QI	0	0	0	0	0	0	0	0	0	0
437	QI	0	0	0	0	0	0	0	0	0	0
438	QI	0	0	0	0	0	0	0	0	0	0
439	QI	0	0	0	0	0	0	0	0	0	0
440	QI	0	0	0	0	0	0	0	0.06	0.21	4.92
441	QI	15.82	42.09	68.3	70.34	82.67	198.46	208.82	193.16	164.98	143.11
442	QI	117.68	107.17	99.98	91.35	87.97	83.27	80.93	76.24	74.23	70.99
443	QI	67.18	63.35	60.23	55.6	37.08	34.4	30.86	27.52	25.07	23.88
444	QI	21.83	19.98	18.41	16.76	15.18	13.65	12.63	11.77	10.72	9.53
445	QI	8.73	8.01	7.35	6.7	6.45	5.83	5.52	5.36	5.1	4.86
446	QI	4.44	4.07	3.9	3.73	3.42	3.17	3.03	2.93	2.79	2.6
447	QI	2.38	2.18	2.12	1.66	1.33	1.44	1.23	1.45	1.4	1.28
448	QI	1.15	1.12	1.02	0.94	0.89	0.82	0.76	0.71	0.67	0.62
449	QI	0.58	0.55	0.55	0.53	0.49	0.48	0.47	0.39	0.37	0.42
450	QI	0.39	0.34	0.33	0.32	0.31	0.3	0.29	0.29	0.28	0.28
451	QI	0.27	0.26	0.25	0.23	0.23	0.22	0.21	0.2	0.19	0.19
452	QI	0.18	0.17	0.16	0.15	0.15	0.14	0.13	0.13	0.12	0.04
453	QI	0.01									
	*										

454	KK	HYDRO3									
455	BA	0.001									
456	QI	0	0	0	0	0	0	0	0	0	0
457	QI	0	0	0	0	0	0	0	0	0	0
458	QI	0	0	0	0	0	0	0	0	0	0
459	QI	0	0	0	0	0	0	0	0	0	0
460	QI	0	0	0	0	0	0	0	0	0	0
461	QI	0	0	0	0	0	0	0	0	0	0
462	QI	0	0	0	0	0	0	0	0	0	0
463	QI	0	0	0	0	0	0	0	0	0	0
464	QI	0	0	0	0	0	0	0	0	0	0
465	QI	0	0	0	0	0	0	0	0	0	0
466	QI	0	0	0	0	0	0	0	0	0	0
467	QI	0	0	0	0	0	0	0	0	1.96	6.05
468	QI	8.11	2.58	3.37	15.16	223.84	553.48	557.89	484.36	405.52	337.86
469	QI	289.58	244.22	200.76	162.35	123.39	96.28	70.95	48.75	36.47	26.05
470	QI	18.93	13.62	9.5	6.39	3.99	2.65	1.3	0.78	0.57	0.37

1

HEC-1 INPUT

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

471	QI	0.3	0.23	0.17	0.12	0.08	0.05	0.02	0	0	0
472	QI	0	0	0	0	0	0	0	0	0	0
473	QI	0	0	0	0	0	0	0	0	0	0
474	QI	0	0	0	0	0	0	0	0	0	0
475	QI	0	0	0	0	0	0	0	0	0	0
476	QI	0	0	0	0	0	0	0	0	0	0
477	QI	0	0	0	0	0	0	0	0	0	0
478	QI	0	0	0	0	0	0	0	0	0	0
479	QI	0	0	0	0	0	0	0	0	0	0
480	QI	0									
	*										

481	KK	C63									
482	KM	COMBINE R61, SUB-62, SUB-63, HYDRO2, AND HYDRO3									
483	HC	5									
	*										

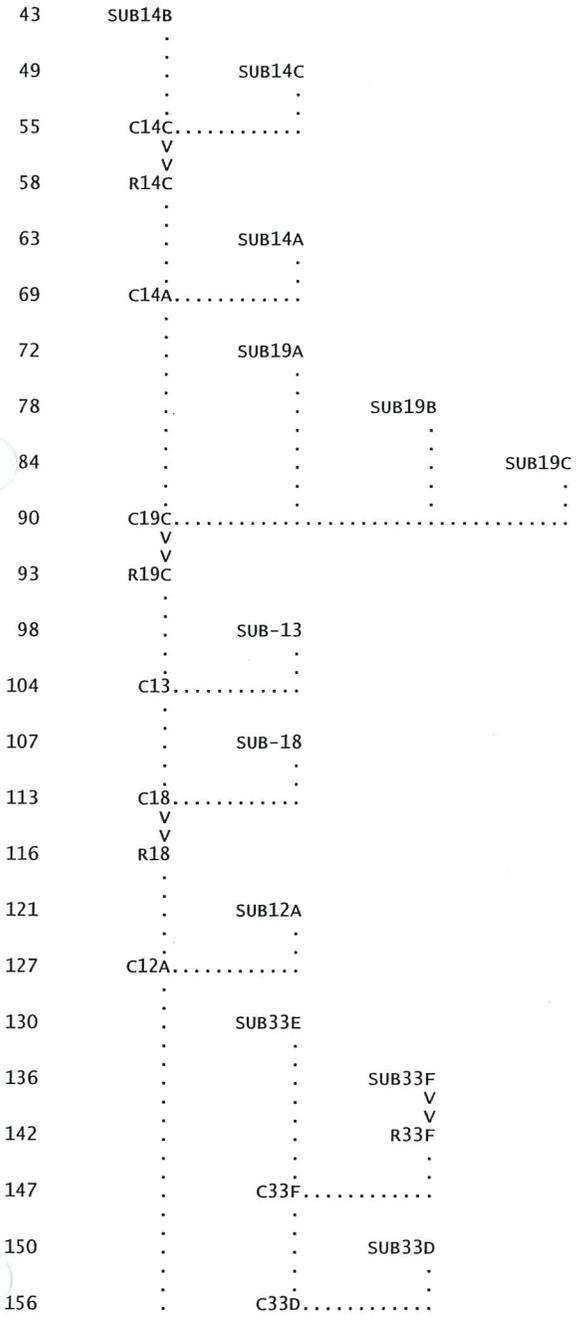
484	KK	R63	ROUTE	REACH							
485	RS	2	FLOW	-1							
486	RC	0.053	0.045	0.053	2145	0.0196	922.00				
487	RX	0.0	4.2	8.2	12.2	36.3	41.2	45.8	50.4		
488	RY	922.0	920.0	918.0	916.0	916.0	918.0	920.0	922.0		

489	KK	SUB-64	BASIN										
490	BA	0.071											
491	LG	0.30	0.15	7.30	0.10	5							
492	UC	0.296	0.365										
493	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0		
494	UA	100											
	*												
495	KK	C64											
496	KM	COMBINE R63, AND SUB-64											
497	HC	2											
	*												
498	ZZ												

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW
 NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW



159	.	V		
	.	V		
	.	R33D		
164	.	.	SUB33B	
170	.	C33B.....		
173	.	.	SUB33C	
179	.	C33C.....		
182	.	V		
	.	R33C		
187	.	.	SUB33A	
193	.	C33A.....		
196	.	.	SUB46A	
202	.	.	SUB46B	
	.	.	V	
208	.	.	V	
	.	.	R46B	
213	.	C46.....		
216	.	.	SUB-45	
222	.	C45.....		
	.	V		
225	.	V		
	.	R45		
230	.	.	SUB-47	
236	.	C47.....		
239	.	.	SUB-75	
245	.	.	SUB-76	
251	.	C76.....		
	.	V		
254	.	V		
	.	R76		
259	.	.	SUB-73	
265	.	C73.....		
268	.	.	SUB-74	
274	.	C74.....		
	.	V		
277	.	V		
	.	R74		
282	.	.	SUB-71	
288	.	C71.....		
291	.	.	SUB-70	
	.	.	V	
297	.	.	V	
	.	.	R70	
	.	.	.	

+		SUB14B	475.	12.20	59.	15.	5.	.27
+	HYDROGRAPH AT	SUB14C	942.	12.17	104.	27.	10.	.46
+	2 COMBINED AT	C14C	1400.	12.17	162.	42.	15.	.73
+	ROUTED TO	R14C	1352.	12.27	162.	42.	15.	.73
+	HYDROGRAPH AT	SUB14A	403.	12.13	43.	11.	4.	.18
+	2 COMBINED AT	C14A	1645.	12.23	203.	53.	19.	.91
+	HYDROGRAPH AT	SUB19A	246.	12.13	28.	8.	3.	.11
+	HYDROGRAPH AT	SUB19B	533.	12.13	62.	18.	7.	.26
+	HYDROGRAPH AT	SUB19C	235.	12.10	27.	8.	3.	.10
+	4 COMBINED AT	C19C	2508.	12.17	317.	86.	31.	1.38
+	ROUTED TO	R19C	2416.	12.30	317.	86.	31.	1.38
+	HYDROGRAPH AT	SUB-13	1239.	12.13	97.	26.	9.	.54
+	2 COMBINED AT	C13	3055.	12.23	411.	111.	40.	1.92
+	HYDROGRAPH AT	SUB-18	823.	12.17	97.	29.	10.	.38
+	2 COMBINED AT	C18	3811.	12.20	505.	139.	50.	2.30
+	ROUTED TO	R18	3744.	12.23	505.	139.	50.	2.30
+	HYDROGRAPH AT	SUB12A	198.	12.10	21.	6.	2.	.09
+	2 COMBINED AT	C12A	3878.	12.23	525.	145.	52.	2.39
+	HYDROGRAPH AT	SUB33E	462.	12.10	48.	14.	5.	.19
+	HYDROGRAPH AT	SUB33F	50.	12.07	5.	1.	0.	.02
+	ROUTED TO	R33F	49.	12.10	5.	1.	0.	.02
+	2 COMBINED AT	C33F	510.	12.10	52.	15.	5.	.22
+	HYDROGRAPH AT	SUB33D	45.	12.23	7.	2.	1.	.04
+	2 COMBINED AT	C33D	543.	12.10	58.	17.	6.	.25
+	ROUTED TO	R33D	531.	12.17	58.	17.	6.	.25
+	HYDROGRAPH AT	SUB33B	349.	12.13	35.	9.	3.	.16
+	2 COMBINED AT	C33B	857.	12.13	93.	26.	9.	.41
+	HYDROGRAPH AT	SUB33C	63.	12.10	8.	2.	1.	.03
+	2 COMBINED AT	C33C	917.	12.13	100.	28.	10.	.43
+	ROUTED TO	R33C	908.	12.17	100.	28.	10.	.43
+	HYDROGRAPH AT	SUB33A	152.	12.07	13.	3.	1.	.05

	2 COMBINED AT	C33A	993.	12.17	112.	31.	11.	.49
+	HYDROGRAPH AT	SUB46A	71.	12.10	7.	2.	1.	.03
+	HYDROGRAPH AT	SUB46B	61.	12.10	7.	2.	1.	.03
+	ROUTED TO	R46B	61.	12.13	7.	2.	1.	.03
+	2 COMBINED AT	C46	129.	12.10	14.	4.	1.	.06
+	HYDROGRAPH AT	SUB-45	153.	12.17	24.	6.	2.	.09
+	2 COMBINED AT	C45	274.	12.13	38.	10.	3.	.15
+	ROUTED TO	R45	256.	12.37	38.	10.	3.	.15
+	HYDROGRAPH AT	SUB-47	325.	12.17	32.	8.	3.	.18
+	2 COMBINED AT	C47	487.	12.27	69.	18.	6.	.33
+	HYDROGRAPH AT	SUB-75	38.	12.07	4.	1.	0.	.02
+	HYDROGRAPH AT	SUB-76	46.	12.07	4.	1.	0.	.02
+	2 COMBINED AT	C76	84.	12.07	8.	3.	1.	.04
+	ROUTED TO	R76	81.	12.10	8.	3.	1.	.04
+	HYDROGRAPH AT	SUB-73	136.	12.10	15.	5.	2.	.06
+	2 COMBINED AT	C73	216.	12.10	23.	7.	3.	.09
+	HYDROGRAPH AT	SUB-74	354.	12.10	39.	12.	4.	.16
+	2 COMBINED AT	C74	566.	12.10	61.	19.	7.	.25
+	ROUTED TO	R74	550.	12.13	61.	19.	7.	.25
+	HYDROGRAPH AT	SUB-71	87.	12.07	9.	3.	1.	.04
+	2 COMBINED AT	C71	625.	12.13	70.	21.	8.	.28
+	HYDROGRAPH AT	SUB-70	143.	12.13	17.	5.	2.	.07
+	ROUTED TO	R70	142.	12.13	17.	5.	2.	.07
+	HYDROGRAPH AT	SUB-72	347.	12.13	37.	11.	4.	.16
+	2 COMBINED AT	C70	486.	12.13	54.	16.	6.	.23
+	2 COMBINED AT	C72	1103.	12.13	123.	37.	13.	.51
+	ROUTED TO	R72	1051.	12.23	123.	37.	13.	.51
+	HYDROGRAPH AT	SUB-69	977.	12.17	101.	29.	11.	.47
+	HYDROGRAPH AT	HYDRO6	1236.	12.40	273.	73.	26.	.00
+	3 COMBINED AT	C69	2950.	12.20	491.	138.	50.	.98
+	HYDROGRAPH AT	SUB-57	170.	12.07	14.	4.	1.	.07

+	2 COMBINED AT	C57	3036.	12.20	504.	142.	51.	1.05
	ROUTED TO	R69	2967.	12.27	504.	142.	51.	1.05
+	HYDROGRAPH AT	SUB-58	249.	12.10	20.	5.	2.	.11
	ROUTED TO	R58	244.	12.13	20.	5.	2.	.11
+	HYDROGRAPH AT	SUB-59	87.	12.27	15.	4.	1.	.08
+	HYDROGRAPH AT	SUB-60	133.	12.23	20.	5.	2.	.09
+	4 COMBINED AT	C60	3316.	12.27	556.	156.	56.	1.33
	ROUTED TO	R60	3311.	12.27	556.	156.	56.	1.33
+	HYDROGRAPH AT	SUB-61	184.	12.27	33.	9.	3.	.14
+	2 COMBINED AT	C61	3488.	12.27	588.	164.	59.	1.47
	ROUTED TO	R61	3470.	12.30	588.	164.	59.	1.47
+	HYDROGRAPH AT	SUB-62	176.	12.17	24.	7.	2.	.10
+	HYDROGRAPH AT	SUB-63	144.	12.17	21.	6.	2.	.08
+	HYDROGRAPH AT	HYDRO2	209.	12.60	46.	12.	4.	.00
+	HYDROGRAPH AT	HYDRO3	558.	12.60	66.	16.	6.	.00
+	5 COMBINED AT	C63	3811.	12.30	742.	204.	74.	1.66
	ROUTED TO	R63	3809.	12.33	742.	204.	74.	1.66
+	HYDROGRAPH AT	SUB-64	119.	12.20	16.	4.	1.	.07
+	2 COMBINED AT	C64	3900.	12.33	757.	208.	75.	1.73

*** NORMAL END OF HEC-1 ***