ADELANTO

HYDROLOGIC ANALYSIS

AT

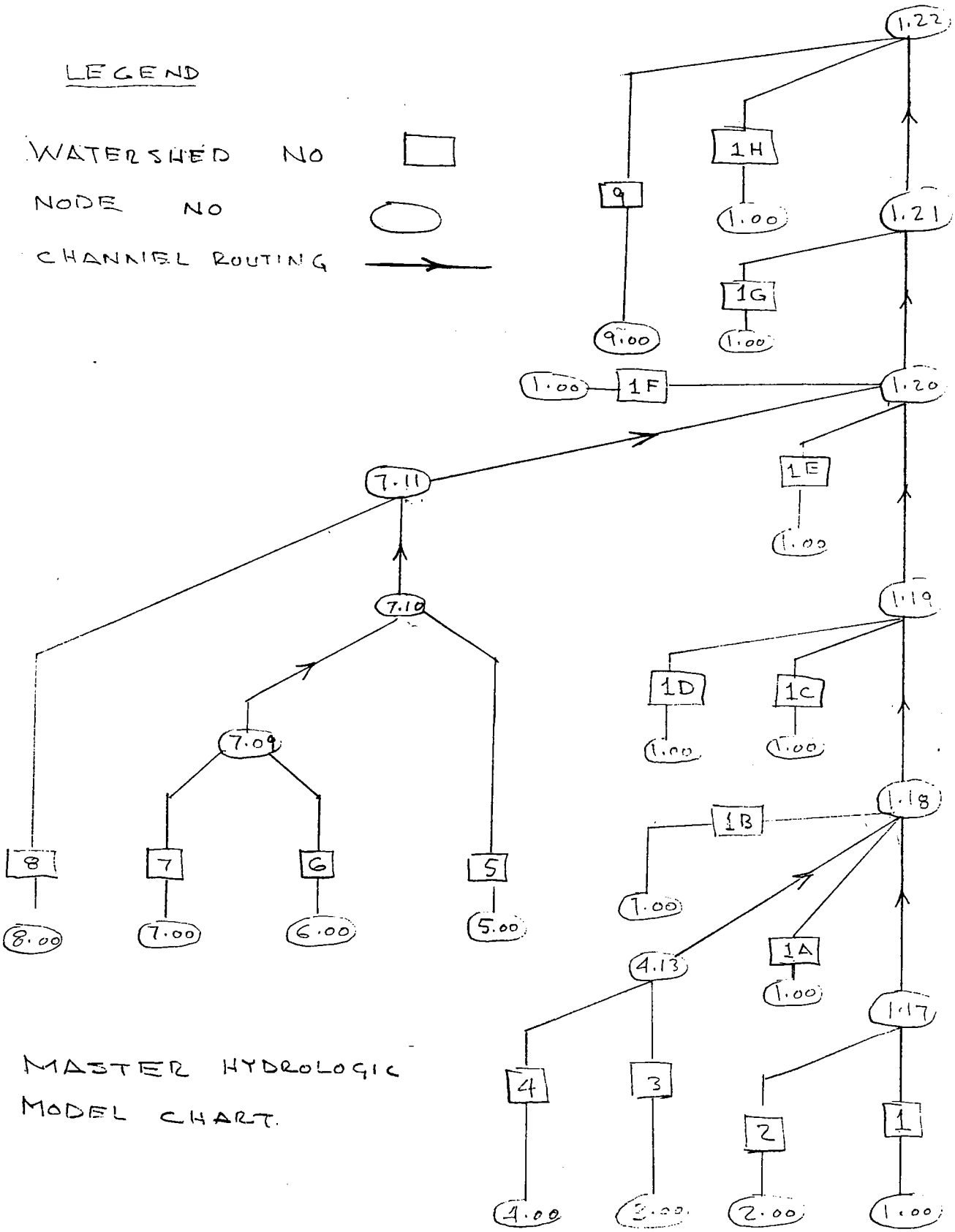
DESIGN NODE 1.20

LEGEND

WATERSHED NO

NODE NO

CHANNEL ROUTING



MASTER HYDROLOGIC MODEL CHART.

RIVERTECH INC

PROJECT ADELANTO DATE CHECKED DATE 5/18/92

DETAIL CHECKED BY PAGE NO.

POINT PRECIPITATION IN INCH 100-YR FREQUENCY. 120/2

WATERSHED #	24 HR	6 HR	3 HR	1 HR	30 MIN	5 MIN
8	5.47	2.99	2.23	1.41	1.14	0.67
7	4.08	1.99	1.69	1.3	1.05	0.62
6	3.78	1.82	1.57	1.24	1.0	0.58
5	4.33	2.66	2.06	1.37	1.11	0.65
4	4.25	2.12	1.76	1.31	1.06	0.62
3	4.14	2.18	1.78	1.29	1.05	0.61
2	5.27	2.67	2.07	1.38	1.12	0.65
1	5.15	2.57	2.02	1.38	1.12	0.65
9	2.83	1.8	1.52	1.17	0.95	0.55
1A	3.02	1.8	1.53	1.2	0.97	0.57
1B	3.05	1.8	1.54	1.2	0.97	0.57
1C	3.0	1.8	1.54	1.2	0.97	0.57
1D	3.05	1.8	1.54	1.2	0.97	0.57
1E	3.00	1.8	1.54	1.2	0.97	0.57
1F	3.12	1.8	1.54	1.2	0.97	0.57
1G	2.98	1.8	1.54	1.2	0.97	0.57
1H	2.95	1.8	1.54	1.2	0.97	0.57

RIVERTECH INC

CLIENT _____ JOB NO. _____ COMPUTED BY _____

PROJECT _____ DATE CHECKED _____ DATE _____

DETAIL _____ CHECKED BY _____ PAGE NO. _____

DESIGN NODE 1.20

WATERSHED 1

NODE #	AREA (Ac)	Fm	$\overline{Y}$	V	L	T.T.	LAG
105	706	.092	.062				.469
				7.46	9,900	.369	
107	940	.123	.107				.838
				7.19	9,000	.348	
109	2,338	.202	.221				1.186
				8.47	9,700	.318	
112	3,489	.218	.244				1.504
				7.28	7,000	.267	
113	3,715	.225	.255				1.771
				9.37	4,200	.125	
114	11,096	.195	.220				1.896
				11.38	9,600	.234	
116	14,167	.222	.259				2.130
				10.90	6,900	.176	
117	14,484	.223	.261				2,306

WATERSHED 2

207	790	.304	.333				.835
				7.35	7,700	.291	
209	1,529	.332	.376				1.126
				7.83	7,100	.252	
211	4,048	.242	.271				1.378
				10.32	9,800	.264	
213	4,510	.248	.280				1.642
				10.12	5,800	.159	
215	5,333	.252	.288				1.801
				11.41	8,000	.195	
217	5,852	.246	.279				1.996
				10.88	7,500	.191	
117	7,823	.255	.294				2.187

RIVERTECH INC

CLIENT _____ JOB NO. _____ COMPUTED BY _____

PROJECT _____ DATE CHECKED _____ DATE _____

DETAIL _____ CHECKED BY _____ PAGE NO. _____

DESIGN NODE 1.20

NODE	AREA	Fm	$\bar{Y}$	V	L	T.T.	LAG
	WATERSHED 3						
3.07	685	.253	.292				1.393
				5.67	8,100	.397	
3.10	955	.266	.312				1.790
				5.85	8,400	.399	
3.12	1,487	.276	.329				2.189
				5.79	6,000	.288	
4.13	1,646	.269	.320				2.477
	WATERSHED 4						
4.09	672	.302	.349				1.700
				4.74	3,800	.223	
4.10	1,615	.267	.309				1.923
				7.07	8,400	.330	
4.12	2,467	.274	.322				2.253
				6.88	6,800	.275	
4.13	2,605	.268	.316				2.528
	WATERSHED 1A						
1.18	933	.199	.247				0.748
	WATERSHED 1B						
1.18	295	.140	.189				0.908
	WATERSHED 1C						
1.19	630	.072	.128				0.945
	WATERSHED 1D						
1.19	880	.166	.218				0.796

RIVERTECH INC

CLIENT _____ JOB NO. _____ COMPUTED BY _____

PROJECT _____ DATE CHECKED _____ DATE _____

DETAIL _____ CHECKED BY _____ PAGE NO. _____

DESIGN NODE 1.20

NODE#	AREA	Fm	$\bar{Y}$	V	L	T.T.	LAG
	WATERSHED 5						
5.07	716	.420	.486				1.233
				5.75	8,400	.406	
5.10	1,172	.346	.399				1.639
				6.38	2,000	.087	
5.11	1,650	.313	.360				1.726
				7.19	5,500	.212	
5.13	2,064	.296	.340				1.938
				7.79	7,100	.253	
5.15	2,270	.293	.338				2.191
				7.56	9,300	.342	
5.17	2,977	.278	.323				2.533
				7.28	6,700	.256	
7.10	3,603	.265	.308				2.789
	WATERSHED 6						
6.01							
6.02							
6.03							
6.04							
6.05							
6 7.09	1107	.243	.284				0.730
	WATERSHED 7						
7.08	969	.230	.262				1.369
				6.11	7,000	.318	
7.09	1,162	.218	.251				1.687

RIVERTECH INC

CLIENT 276-8766 Kon
PROJECT 7
DETAIL 3

JOB NO.
DATE CHECKED
CHECKED BY

COMPUTED BY
DATE
PAGE NO.

DESIGN NODE 1.20

NODE #	AREA	Fm	$\bar{Y}$	V	L	T.T.	LAG
	WATERSHED 8						
8.06	733	.246	.281				0.417
				7.84	9,400	.333	
8.08	1,120	.240	.274				0.750
				6.95	5,700	.228	
8.09	1,292	.239	.272				0.978
				7.50	8,400	.311	
8.11	1,688	.237	.270				1.289
				7.69	5,200	.188	
8.12	2,092	.235	.268				1.477
				8.43	6,000	.198	
8.13	4,241	.237	.271				1.675
				9.96	4,500	.126	
8.14	4,685	.237	.270				1.801
				9.43	1,000	.029	
8.15	5,052	.236	.269				1.830
				10.09	9,800	.270	
8.16	5,564	.228	.262				2.100
				9.80	9,000	.255	
8.17	7,045	.206	.239				2.355
				10.44	3,900	.104	
8-7.11	7,881	.191	.225				2.459
	WATERSHED 1E						
1.20	741	.046	.098				0.883
	WATERSHED 1F						
1.20	899	.129	.172				1.004

RIVERTECH INC

CLIENT _____ JOB NO. _____ COMPUTED BY _____

PROJECT _____ DATE CHECKED _____ DATE _____

DETAIL _____ CHECKED BY _____ PAGE NO. _____

DESIGN NODE 1.20

$$R_{1.20} = \frac{\Sigma A_i R_i}{\Sigma A_i}$$

$A_{1.18} = 27,786$ (e), $A_{1C} = 629$ (s), $A_{1D} = 880$ (T), $A_{1E} = 741$ (U)

$A_{1F} = 899$ (V) $\quad \Sigma A_i = 30935$

FOR R_i SEE RAINFALL TABLE

$R_{1.20}$ (5 MIN) =	0.63	.437
$R_{1.20}$ (30 MIN) =	1.09	.475
$R_{1.20}$ (1 HR) =	1.34	.498
$R_{1.20}$ (3 HR) =	1.93	.844
$R_{1.20}$ (6 HR) =	2.43	.931
$R_{1.20}$ (24 HR) =	4.76	.958

DEPTH-AREA FACTORS FROM ADF120.INP

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

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                      Analysis prepared by:

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      23332 MILL CREEK DRIVE, SUITE 100, LAGUNA HILLS, CA 92653
      TELEPHONE: (714) 586 - 6121          FAX: (714) 586 - 2217

 ************************* DESCRIPTION OF STUDY *************************
*             AREA-DEPTH FACTOR CALCULATIONS AT NODE 1.20                *
*                                                                        *
*                                                                        *
 ************************************************************************

  FILE NAME: ADF120.INP
  TIME/DATE OF STUDY: 12:38   6/28/1992

**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.20 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =   30935.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    2.000 HOURS
         VALLEY(DEVELOPED) S-GRAPH SELECTED
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .300
         LOW LOSS FRACTION =  .300
         *HYDROGRAPH MODEL #3 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  12.500


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 17.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 18.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
       1                .714                890.762
       2               2.277               1948.833
       3               4.834               3188.676
       4               9.976               6412.454
       5              16.914               8651.856
       6              24.683               9688.775
       7              33.407              10879.830
       8              43.755              12903.820
       9              55.000              14023.680
      10              64.841              12272.410
      11              73.262              10501.760
      12              79.816               8173.070
      13              84.997               6461.121
      14              88.800               4742.607
      15              91.564               3447.312
      16              93.901               2913.604
      17              95.570               2081.439
      18              96.726               1441.236
      19              97.691               1203.805
      20              98.164                590.119
      21              98.398                292.281
      22              98.633                292.281
      23              98.867                292.281
      24              99.102                292.281
      25              99.336                292.281
      26              99.570                292.281
      27              99.805                292.281
      28             100.000                243.568
```

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------------------------------------------------------------------------------

        TOTAL STORM RAINFALL(INCHES) =  4.56
        TOTAL SOIL-LOSS(INCHES) =  1.34
        TOTAL EFFECTIVE RAINFALL(INCHES) =  3.22

------------------------------------------------------------------------------
    TOTAL SOIL-LOSS VOLUME(ACRE-FEET) =    3450.1270
    TOTAL STORM RUNOFF VOLUME(ACRE-FEET) =    8301.0660
------------------------------------------------------------------------------
```

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	2975.0	5950.0	8925.0	11900.0
17.083	4432.2840	10954.96	.	.	.V	.	Q .
17.167	4507.7310	10954.96	.	.	.V	.	Q .
17.250	4583.1790	10954.96	.	.	. V	.	Q .
17.333	4660.6040	11242.21	.	.	. V	.	Q .
17.417	4738.0300	11242.21	.	.	. V	.	Q .
17.500	4815.4560	11242.21	.	.	. V	.	Q .
17.583	4894.9960	11549.18	.	.	. V	.	Q .
17.667	4974.5360	11549.18	.	.	. V	.	Q .
17.750	5054.0760	11549.18	.	.	. V	.	Q .
17.833	5135.8790	11877.85	.	.	. V	.	Q.
17.917	5217.6830	11877.85	.	.	. V	.	Q.
18.000	5299.4860	11877.85	.	.	. V	.	Q.

END OF FLOOD ROUTING ANALYSIS

RIVERTECH INC

PROJECT ADELANTO DATE CHECKED DATE 5/18/92

DETAIL CHECKED BY PAGE NO.

POINT PRECIPITATION IN INCH 100-YR FREQUENCY.

WATERSHED #	24 HR	6 HR	3 HR	1 HR	30 MIN	5 MIN
8	5.47	2.99	2.23	1.41	1.14	0.67
7	4.08	1.99	1.69	1.3	1.05	0.62
6	3.78	1.82	1.57	1.24	1.0	0.59
5	4.33	2.66	2.06	1.37	1.11	0.65
4	4.25	2.12	1.76	1.31	1.06	0.62
3	4.14	2.18	1.78	1.29	1.05	0.61
2	5.27	2.67	2.07	1.38	1.12	0.65
1	5.15	2.57	2.02	1.38	1.12	0.65
9	2.83	1.8	1.52	1.17	0.95	0.55
1A	3.02	1.8	1.53	1.2	0.97	0.57
1B	3.05	1.8	1.54	1.2	0.97	0.57
1C	3.0	1.8	1.54	1.2	0.97	0.57
1D	3.05	1.8	1.54	1.2	0.97	0.57
1E	3.00	1.8	1.54	1.2	0.97	0.57
1F	3.12	1.8	1.54	1.2	0.97	0.57
1G	2.98	1.8	1.54	1.2	0.97	0.57
1H	2.95	1.8	1.54	1.2	0.97	0.57
~~609~~ 50	3.0	1.8	1.54	1.2	0.97	0.57
~~1111~~ 50A	3.0	1.8	1.54	1.2	0.97	0.57
50B	3.0	1.8	1.54	1.2	0.97	0.57
50C	3.0	1.8	1.54	1.2	0.97	0.57
50D	3.0	1.8	1.54	1.2	0.97	0.57
50E	3.0	1.8	1.54	1.2	0.97	0.57
50F	3.0	1.8	1.54	1.2	0.97	0.57
50G	3.0	1.8	1.54	1.2	0.97	0.57

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

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                       Analysis prepared by:

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      TELEPHONE: (714) 586 - 6121          FAX: (714) 586 - 2217

 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*               HYDROGRAPH AT NODE 1.05 ROUTED TO 1.07                   *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD105.INP
  TIME/DATE OF STUDY:  7:35   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.05 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =     706.420 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =     .469 HOURS
          CAUTION: LAG TIME IS LESS THAN  .50 HOURS.
          THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
          MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
         VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .700
         VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .092
         LOW LOSS FRACTION =  .062
         *HYDROGRAPH MODEL #1 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =   5.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  17.768


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.790              152.947
        2                6.691              418.655
        3               15.076              716.371
        4               27.191             1035.059
        5               38.248              944.574
        6               48.400              867.354
        7               55.568              612.405
        8               60.578              427.988
        9               64.575              341.435
       10               67.793              274.962
       11               70.552              235.716
       12               73.023              211.117
       13               75.214              187.152
       14               77.163              166.545
       15               78.916              149.703
       16               80.476              133.314
       17               81.896              121.289
       18               83.160              107.965
       19               84.300               97.434
       20               85.333               88.228
```

21	86.243	77.786
22	87.101	73.284
23	87.916	69.640
24	88.582	56.877
25	89.222	54.646
26	89.853	53.962
27	90.459	51.763
28	91.063	51.624
29	91.619	47.457
30	92.099	41.036
31	92.579	40.960
32	93.039	39.296
33	93.482	37.914
34	93.925	37.776
35	94.326	34.269
36	94.695	31.528
37	95.052	30.545
38	95.383	28.289
39	95.709	27.785
40	96.025	27.006
41	96.304	23.865
42	96.579	23.522
43	96.863	24.193
44	97.162	25.599
45	97.463	25.665
46	97.679	18.485
47	97.804	10.636
48	97.928	10.622
49	98.053	10.650
50	98.177	10.597
51	98.301	10.649
52	98.425	10.597
53	98.550	10.649
54	98.674	10.623
55	98.799	10.623
56	98.923	10.623
57	99.030	9.177
58	99.091	5.180
59	99.150	5.049
60	99.208	4.969
61	99.267	5.023
62	99.330	5.338
63	99.388	5.023
64	99.447	5.022
65	99.506	5.023
66	99.565	5.023
67	99.624	5.022
68	99.682	5.023
69	99.741	5.022
70	99.800	5.023
71	99.859	5.023
72	99.917	5.022
73	99.976	5.023
74	100.000	2.028

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = .27
TOTAL EFFECTIVE RAINFALL(INCHES) = 4.29

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 16.0900
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 252.2239

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 150.0 300.0 450.0 600.0
16.083	139.8275	319.99	
16.167	142.6222	405.79	
16.250	146.0072	491.50	
16.333	149.8837	562.87	
16.417	153.5689	535.08	
16.500	157.0338	503.11	
16.583	160.0475	437.59	
16.667	162.7859	397.61	
16.750	165.4088	380.85	
16.833	167.9623	370.77	
16.917	170.4658	363.50	
17.000	172.9236	356.87	
17.083	175.3167	347.48	
17.167	177.6187	334.25	
17.250	179.8033	317.21	
17.333	181.8403	295.77	
17.417	183.7425	276.20	
17.500	185.5141	257.25	
17.583	187.1841	242.48	
17.667	188.7723	230.61	
17.750	190.2877	220.03	
17.833	191.7456	211.70	
17.917	193.1502	203.94	
18.000	194.4926	194.91	
18.083	195.7929	188.81	
18.167	197.0586	183.78	
18.250	198.2924	179.15	
18.333	199.4995	175.28	
18.417	200.6751	170.70	
18.500	201.8188	166.05	
18.583	202.9401	162.81	
18.667	204.0378	159.38	
18.750	205.1131	156.15	
18.833	206.1669	153.00	
18.917	207.1945	149.22	
19.000	208.1987	145.81	
19.083	209.1826	142.86	
19.167	210.1464	139.94	
19.250	211.0939	137.58	
19.333	212.0244	135.12	
19.417	212.9357	132.31	
19.500	213.8327	130.25	
19.583	214.7173	128.44	
19.667	215.5898	126.70	
19.750	216.4463	124.36	
19.833	217.2758	120.45	
19.917	218.0798	116.74	
20.000	218.8717	114.98	

****

FLOW PROCESS FROM NODE 1.05 TO NODE 1.07 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 20.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 4120.00
DOWNSTREAM ELEVATION = 3840.00
CHANNEL LENGTH(FT) = 9900.00 MANNING'S FACTOR = .045
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 562.87
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 378.81
CHANNEL NORMAL VELOCITY FOR Q = 378.81 CFS = 7.46 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .815

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .582

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	150.5	138.8	138.8
14.167	159.0	140.8	140.8

14.250	171.8	143.0	143.0
14.333	189.3	145.7	145.7
14.417	205.4	150.5	150.5
14.500	220.3	158.4	158.4
14.583	231.6	170.3	170.3
14.667	240.3	185.1	185.1
14.750	247.9	200.4	200.4
14.833	254.6	214.6	214.6
14.917	260.8	226.6	226.6
15.000	266.8	236.3	236.3
15.083	272.7	244.6	244.6
15.167	278.5	251.9	251.9
15.250	284.2	258.5	258.5
15.333	290.1	264.7	264.7
15.417	292.5	270.7	270.7
15.500	289.2	276.6	276.6
15.583	279.5	282.4	282.4
15.667	263.7	287.4	287.4
15.750	251.6	289.6	289.6
15.833	243.9	287.1	287.1
15.917	246.6	279.0	279.0
16.000	262.4	267.3	267.3
16.083	320.0	256.4	256.4
16.167	405.8	249.7	249.7
16.250	491.5	251.6	251.6
16.333	562.9	271.3	271.3
16.417	535.1	319.6	319.6
16.500	503.1	389.7	389.7
16.583	437.6	465.6	465.6
16.667	397.6	515.8	515.8
16.750	380.9	519.6	519.6
16.833	370.8	494.8	494.8
16.917	363.5	452.2	452.2
17.000	356.9	416.5	416.5
17.083	347.5	393.4	393.4
17.167	334.2	378.5	378.5
17.250	317.2	368.2	368.2
17.333	295.8	359.4	359.4
17.417	276.2	349.4	349.4
17.500	257.2	336.6	336.6
17.583	242.5	320.3	320.3
17.667	230.6	301.5	301.5
17.750	220.0	282.3	282.3
17.833	211.7	264.3	264.3
17.917	203.9	248.8	248.8
18.000	194.9	235.8	235.8
18.083	188.8	224.7	224.7
18.167	183.8	215.3	215.3
18.250	179.1	206.6	206.6
18.333	175.3	198.4	198.4
18.417	170.7	191.6	191.6
18.500	166.1	186.0	186.0
18.583	162.8	181.1	181.1
18.667	159.4	176.6	176.6
18.750	156.1	172.1	172.1
18.833	153.0	167.8	167.8
18.917	149.2	164.1	164.1
19.000	145.8	160.6	160.6

```
================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =     252.224 AF
    OUTFLOW VOLUME =     252.224 AF
    LOSS    VOLUME =        .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
```

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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
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 ************************* DESCRIPTION OF STUDY *************************
*                           DESIGN NODE 1.20                             *
*                HYDROGRAPH AT NODE 1.07 ROUTED TO 1.09                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD107.INP
  TIME/DATE OF STUDY:  8:36   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.07 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =     940.110 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =     .838 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .100
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .123
        LOW LOSS FRACTION =  .107
        *HYDROGRAPH MODEL #1 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =   5.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =   9.944


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1                .937                106.520
          2               2.922                225.735
          3               5.693                314.985
          4               9.229                402.086
          5              14.535                603.260
          6              21.032                738.639
          7              27.906                781.497
          8              34.182                713.583
          9              40.008                662.331
         10              46.402                727.059
         11              51.898                624.785
         12              55.997                466.102
         13              59.518                400.322
         14              62.474                336.049
         15              65.107                299.358
         16              67.383                258.737
         17              69.331                221.503
         18              71.125                203.927
         19              72.685                177.465
         20              74.175                169.350
         21              75.538                154.927
         22              76.754                138.282
         23              77.931                133.781
```

24	78.985	119.858
25	79.964	111.323
26	80.876	103.710
27	81.696	93.189
28	82.508	92.373
29	83.251	84.488
30	83.974	82.166
31	84.658	77.710
32	85.268	69.452
33	85.874	68.858
34	86.429	63.044
35	86.964	60.842
36	87.456	55.939
37	87.893	49.707
38	88.328	49.440
39	88.750	47.986
40	89.168	47.500
41	89.555	44.013
42	89.873	36.236
43	90.190	35.961
44	90.506	35.961
45	90.822	35.934
46	91.133	35.394
47	91.432	33.988
48	91.730	33.904
49	92.029	33.928
50	92.327	33.917
51	92.609	31.994
52	92.848	27.253
53	93.085	26.958
54	93.322	26.936
55	93.560	26.978
56	93.792	26.468
57	94.013	25.028
58	94.232	24.914
59	94.451	24.913
60	94.670	24.934
61	94.883	24.204
62	95.074	21.699
63	95.251	20.134
64	95.427	20.037
65	95.603	19.977
66	95.776	19.628
67	95.935	18.114
68	96.093	17.960
69	96.251	17.988
70	96.409	17.968
71	96.563	17.498
72	96.699	15.434
73	96.833	15.274
74	96.967	15.248
75	97.101	15.247
76	97.238	15.489
77	97.383	16.507
78	97.529	16.614
79	97.675	16.587
80	97.821	16.641
81	97.956	15.345
82	98.023	7.610
83	98.082	6.753
84	98.142	6.833
85	98.202	6.753
86	98.261	6.780
87	98.321	6.807
88	98.381	6.752
89	98.441	6.807
90	98.500	6.806
91	98.560	6.753
92	98.619	6.753
93	98.680	6.860
94	98.739	6.753
95	98.798	6.753
96	98.858	6.806
97	98.918	6.807
98	98.978	6.753
99	99.037	6.806
100	99.097	6.753
101	99.153	6.431
102	99.187	3.805
103	99.215	3.162
104	99.242	3.163
105	99.271	3.268
106	99.299	3.108
107	99.327	3.270
108	99.355	3.162
109	99.383	3.162
110	99.413	3.430
111	99.441	3.163
112	99.469	3.162
113	99.496	3.163
114	99.524	3.163
115	99.552	3.162
116	99.580	3.163
117	99.608	3.162
118	99.636	3.163
119	99.663	3.163
120	99.691	3.162
121	99.719	3.163
122	99.747	3.162
123	99.775	3.163

124	99.802	3.163
125	99.830	3.162
126	99.858	3.163
127	99.886	3.162
128	99.914	3.163
129	99.942	3.163
130	99.969	3.162
131	99.997	3.163
132	100.000	.325

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = .47
TOTAL EFFECTIVE RAINFALL(INCHES) = 4.09

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 36.7207
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 320.3618

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 150.0 300.0 450.0 600.0
16.083	163.9413	352.07	
16.167	166.5815	383.36	
16.250	169.4121	411.01	
16.333	172.4604	442.60	
16.417	175.8899	497.97	
16.500	179.5766	535.31	
16.583	183.3412	546.62	
16.667	187.0086	532.52	
16.750	190.6240	524.95	
16.833	194.3370	539.12	
16.917	197.8849	515.16	
17.000	201.1761	477.88	
17.083	204.3396	459.33	
17.167	207.3925	443.29	
17.250	210.3606	430.97	
17.333	213.2160	414.59	
17.417	215.9431	395.98	
17.500	218.5538	379.08	
17.583	221.0330	359.97	
17.667	223.4101	345.16	
17.750	225.6787	329.41	
17.833	227.8301	312.38	
17.917	229.8891	298.97	
18.000	231.8592	286.05	
18.083	233.7548	275.25	
18.167	235.5847	265.70	
18.250	237.3511	256.47	
18.333	239.0721	249.89	
18.417	240.7439	242.75	
18.500	242.3769	237.10	
18.583	243.9702	231.35	
18.667	245.5204	225.09	
18.750	247.0399	220.63	
18.833	248.5251	215.66	
18.917	249.9812	211.42	
19.000	251.4042	206.62	
19.083	252.7944	201.86	
19.167	254.1611	198.45	
19.250	255.5041	195.00	
19.333	256.8237	191.60	
19.417	258.1152	187.53	
19.500	259.3742	182.81	
19.583	260.6135	179.94	
19.667	261.8358	177.49	
19.750	263.0414	175.05	
19.833	264.2291	172.45	
19.917	265.3983	169.77	
20.000	266.5516	167.46	

FLOW PROCESS FROM NODE 1.07 TO NODE 1.09 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 25.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3840.00
DOWNSTREAM ELEVATION = 3640.00
CHANNEL LENGTH(FT) = 9000.00 MANNING'S FACTOR = .040
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 546.62
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 383.59
CHANNEL NORMAL VELOCITY FOR Q = 383.59 CFS = 7.19 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .809

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .584

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	176.6	165.9	165.9
14.167	182.3	168.0	168.0

14.250	189.3	170.2	170.2
14.333	197.6	173.1	173.1
14.417	208.7	177.2	177.2
14.500	221.7	182.7	182.7
14.583	235.3	189.6	189.6
14.667	248.0	198.3	198.3
14.750	260.1	209.1	209.1
14.833	273.1	221.4	221.4
14.917	284.8	234.2	234.2
15.000	294.4	246.7	246.7
15.083	303.3	259.3	259.3
15.167	311.4	271.6	271.6
15.250	319.2	282.9	282.9
15.333	326.7	292.9	292.9
15.417	331.6	301.9	301.9
15.500	334.0	310.3	310.3
15.583	334.7	318.3	318.3
15.667	334.1	325.0	325.0
15.750	329.9	329.7	329.7
15.833	323.9	332.5	332.5
15.917	320.1	333.5	333.5
16.000	322.6	332.3	332.3
16.083	352.1	328.7	328.7
16.167	383.4	324.5	324.5
16.250	411.0	322.9	322.9
16.333	442.6	333.5	333.5
16.417	498.0	355.7	355.7
16.500	535.3	382.0	382.0
16.583	546.6	410.5	410.5
16.667	532.5	449.4	449.4
16.750	525.0	491.4	491.4
16.833	539.1	521.2	521.2
16.917	515.2	530.9	530.9
17.000	477.9	529.1	529.1
17.083	459.3	531.8	531.8
17.167	443.3	527.4	527.4
17.250	431.0	506.6	506.6
17.333	414.6	483.1	483.1
17.417	396.0	463.3	463.3
17.500	379.1	447.1	447.1
17.583	360.0	431.7	431.7
17.667	345.2	414.9	414.9
17.750	329.4	397.7	397.7
17.833	312.4	379.8	379.8
17.917	299.0	362.8	362.8
18.000	286.1	346.8	346.8
18.083	275.2	330.4	330.4
18.167	265.7	315.0	315.0
18.250	256.5	300.9	300.9
18.333	249.9	288.3	288.3
18.417	242.7	277.2	277.2
18.500	237.1	267.1	267.1
18.583	231.4	258.5	258.5
18.667	225.1	250.9	250.9
18.750	220.6	244.1	244.1
18.833	215.7	237.9	237.9
18.917	211.4	231.8	231.8
19.000	206.6	226.2	226.2

```
================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =     320.362 AF
    OUTFLOW VOLUME =     320.362 AF
    LOSS    VOLUME =        .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                            DESIGN NODE 1.20                            *
*                HYDROGRAPH AT NODE 1.09 ROUTED TO 1.12                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD109.INP
  TIME/DATE OF STUDY:  8:37   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.09 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    2338.360 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.186 HOURS
        VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .100
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .500
        VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .202
        LOW LOSS FRACTION =  .221
        *HYDROGRAPH MODEL #2 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  14.053


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.275               180.253
        2                4.393               440.862
        3                9.109               666.888
        4               16.616              1061.394
        5               25.769              1294.289
        6               34.610              1250.147
        7               43.724              1288.620
        8               52.469              1236.485
        9               58.369               834.252
       10               62.979               651.961
       11               66.779               537.231
       12               69.813               429.057
       13               72.408               366.893
       14               74.619               312.563
       15               76.624               283.501
       16               78.355               244.859
       17               79.932               222.936
       18               81.325               196.915
       19               82.553               173.699
       20               83.701               162.356
       21               84.741               146.952
       22               85.722               138.720
```

23	86.584	121.946
24	87.398	115.121
25	88.145	105.596
26	88.797	92.224
27	89.397	84.815
28	89.973	81.385
29	90.519	77.254
30	90.954	61.487
31	91.373	59.208
32	91.791	59.218
33	92.198	57.491
34	92.591	55.641
35	92.985	55.648
36	93.371	54.510
37	93.689	45.056
38	93.995	43.223
39	94.300	43.175
40	94.596	41.879
41	94.877	39.638
42	95.157	39.622
43	95.435	39.356
44	95.686	35.413
45	95.926	34.038
46	96.167	34.066
47	96.398	32.572
48	96.595	27.920
49	96.792	27.828
50	96.988	27.736
51	97.166	25.174
52	97.335	23.819
53	97.503	23.857
54	97.675	24.211
55	97.856	25.723
56	98.039	25.804
57	98.221	25.803
58	98.340	16.800
59	98.410	9.925
60	98.481	9.943
61	98.551	9.944
62	98.621	9.905
63	98.692	9.944
64	98.762	9.944
65	98.832	9.943
66	98.902	9.944
67	98.973	9.904
68	99.043	9.944
69	99.113	9.944
70	99.184	9.944
71	99.254	9.904
72	99.311	8.096
73	99.344	4.756
74	99.377	4.638
75	99.411	4.716
76	99.444	4.678
77	99.476	4.638
78	99.511	4.913
79	99.544	4.638
80	99.577	4.639
81	99.610	4.639
82	99.642	4.638
83	99.675	4.638
84	99.708	4.639
85	99.741	4.639
86	99.774	4.638
87	99.806	4.638
88	99.839	4.639
89	99.872	4.639
90	99.905	4.638
91	99.938	4.638
92	99.970	4.639
93	100.000	4.175

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = .97
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.59

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 189.2204
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 699.0107

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 275.0 550.0 825.0 1100.0
16.083	332.1156	734.36	
16.167	337.1732	734.36	
16.250	342.6977	802.17	
16.333	348.2223	802.17	
16.417	354.2169	870.42	
16.500	360.2115	870.42	
16.583	366.9052	971.91	
16.667	373.5988	971.91	
16.750	380.7250	1034.74	
16.833	387.8513	1034.74	
16.917	395.0419	1044.08	
17.000	402.2325	1044.08	
17.083	409.5562	1063.40	
17.167	416.8799	1063.40	
17.250	423.9955	1033.18	
17.333	431.1110	1033.18	
17.417	437.4810	924.93	
17.500	443.8511	924.93	
17.583	449.7837	861.42	
17.667	455.7163	861.42	
17.750	461.2014	796.44	
17.833	466.6865	796.44	
17.917	471.7307	732.41	
18.000	476.7748	732.41	
18.083	481.4368	676.91	
18.167	486.0987	676.91	
18.250	490.3972	624.14	
18.333	494.6957	624.14	
18.417	498.7351	586.52	
18.500	502.7745	586.52	
18.583	506.5768	552.09	
18.667	510.3790	552.09	
18.750	513.9959	525.17	
18.833	517.6128	525.17	
18.917	521.0544	499.72	
19.000	524.4960	499.72	
19.083	527.7875	477.94	
19.167	531.0791	477.94	
19.250	534.2493	460.32	
19.333	537.4196	460.32	
19.417	540.4669	442.47	
19.500	543.5142	442.47	
19.583	546.4574	427.36	
19.667	549.4006	427.36	
19.750	552.2344	411.46	
19.833	555.0681	411.46	
19.917	557.8134	398.60	
20.000	560.5586	398.60	

FLOW PROCESS FROM NODE 1.09 TO NODE 1.12 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 35.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3640.00
DOWNSTREAM ELEVATION = 3470.00
CHANNEL LENGTH(FT) = 9700.00 MANNING'S FACTOR = .035
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 1063.40
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 770.98
CHANNEL NORMAL VELOCITY FOR Q = 770.98 CFS = 8.47 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .833

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .621

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	366.4	343.2	343.2
14.167	366.4	348.4	348.4

14.250	386.8	351.3	351.3
14.333	386.8	359.2	359.2
14.417	413.4	363.7	363.7
14.500	413.4	375.8	375.8
14.583	450.0	382.7	382.7
14.667	450.0	398.8	398.8
14.750	492.8	407.9	407.9
14.833	492.8	430.0	430.0
14.917	535.2	442.4	442.4
15.000	535.2	469.0	469.0
15.083	579.2	483.8	483.8
15.167	579.2	511.0	511.0
15.250	622.9	526.0	526.0
15.333	622.9	554.1	554.1
15.417	651.5	569.7	569.7
15.500	651.5	597.9	597.9
15.583	668.6	613.4	613.4
15.667	668.6	633.9	633.9
15.750	679.4	644.9	644.9
15.833	679.4	657.7	657.7
15.917	686.8	664.5	664.5
16.000	686.8	672.6	672.6
16.083	734.4	676.8	676.8
16.167	734.4	682.2	682.2
16.250	802.2	685.0	685.0
16.333	802.2	710.4	710.4
16.417	870.4	725.3	725.3
16.500	870.4	765.5	765.5
16.583	971.9	788.3	788.3
16.667	971.9	831.7	831.7
16.750	1034.7	855.8	855.8
16.833	1034.7	916.6	916.6
16.917	1044.1	951.0	951.0
17.000	1044.1	996.0	996.0
17.083	1063.4	1020.1	1020.1
17.167	1063.4	1034.0	1034.0
17.250	1033.2	1040.2	1040.2
17.333	1033.2	1052.5	1052.5
17.417	924.9	1059.3	1059.3
17.500	924.9	1046.4	1046.4
17.583	861.4	1038.2	1038.2
17.667	861.4	979.9	979.9
17.750	796.4	945.7	945.7
17.833	796.4	900.4	900.4
17.917	732.4	876.2	876.2
18.000	732.4	833.9	833.9
18.083	676.9	810.6	810.6
18.167	676.9	769.1	769.1
18.250	624.1	746.3	746.3
18.333	624.1	709.4	709.4
18.417	586.5	689.2	689.2
18.500	586.5	654.6	654.6
18.583	552.1	635.7	635.7
18.667	552.1	609.3	609.3
18.750	525.2	595.2	595.2
18.833	525.2	572.2	572.2
18.917	499.7	559.7	559.7
19.000	499.7	541.2	541.2

```
================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =     699.011 AF
    OUTFLOW VOLUME =     699.011 AF
    LOSS    VOLUME =        .000 AF
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  END OF FLOOD ROUTING ANALYSIS
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          F L O O D    R O U T I N G    A N A L Y S I S
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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 1.12 ROUTED TO 1.13                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD112.INP
  TIME/DATE OF STUDY:  8:38   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.12 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    3489.290 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.504 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .500
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .218
        LOW LOSS FRACTION =   .244
        *HYDROGRAPH MODEL #3 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  16.622


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1               1.490              209.571
          2               5.450              557.032
          3              12.101              935.549
          4              22.281             1431.939
          5              32.934             1498.525
          6              43.703             1514.684
          7              53.779             1417.416
          8              60.546              951.767
          9              65.747              731.579
         10              69.788              568.506
         11              73.005              452.434
         12              75.674              375.384
         13              77.968              322.801
         14              79.933              276.374
         15              81.624              237.795
         16              83.073              203.805
         17              84.373              182.914
         18              85.554              166.085
         19              86.628              151.115
         20              87.590              135.375
         21              88.463              122.784
         22              89.214              105.654
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23	89.886	94.406
24	90.527	90.207
25	91.089	79.069
26	91.558	65.977
27	92.027	65.944
28	92.483	64.216
29	92.924	61.975
30	93.365	61.966
31	93.763	56.010
32	94.111	49.051
33	94.460	48.998
34	94.797	47.438
35	95.119	45.285
36	95.441	45.270
37	95.745	42.789
38	96.022	39.004
39	96.273	35.286
40	96.514	33.835
41	96.738	31.563
42	96.963	31.570
43	97.174	29.718
44	97.365	26.926
45	97.556	26.875
46	97.754	27.803
47	97.962	29.205
48	98.169	29.206
49	98.330	22.628
50	98.414	11.802
51	98.497	11.669
52	98.580	11.702
53	98.663	11.702
54	98.747	11.702
55	98.829	11.667
56	98.913	11.702
57	98.996	11.670
58	99.079	11.702
59	99.162	11.702
60	99.245	11.667
61	99.313	9.553
62	99.352	5.554
63	99.392	5.520
64	99.430	5.454
65	99.470	5.554
66	99.510	5.686
67	99.550	5.554
68	99.589	5.554
69	99.629	5.554
70	99.668	5.554
71	99.708	5.554
72	99.747	5.554
73	99.787	5.554
74	99.826	5.554
75	99.866	5.554
76	99.905	5.554
77	99.945	5.554
78	99.984	5.554
79	100.000	2.243

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.08
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.48

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 314.6459
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1010.7860

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	350.0	700.0	1050.0	1400.0
16.083	452.3153	1009.86			V	Q	
16.167	459.2703	1009.86			V	Q	
16.250	466.2253	1009.86			V	Q	
16.333	473.8732	1110.48			V	Q	
16.417	481.5212	1110.48			V	Q	
16.500	489.1691	1110.48			V	Q	
16.583	497.6097	1225.57			V	Q	
16.667	506.0504	1225.57			V	Q	
16.750	514.4910	1225.57			V	Q	
16.833	523.7623	1346.20			V	Q	
16.917	533.0336	1346.20			V	Q	
17.000	542.3049	1346.20			V	Q	
17.083	551.7921	1377.55			V	Q	
17.167	561.2794	1377.55			V	Q	
17.250	570.7666	1377.55			V	Q	
17.333	580.2878	1382.49			V	Q	
17.417	589.8091	1382.49			V	Q	
17.500	599.3303	1382.49			V	Q	
17.583	608.4329	1321.68			V	Q	
17.667	617.5354	1321.68			V	Q	
17.750	626.6379	1321.68			V	Q	
17.833	634.6785	1167.49			V	Q	
17.917	642.7191	1167.49			V	Q	
18.000	650.7597	1167.49			V	Q	
18.083	658.0378	1056.78			V	Q	
18.167	665.3160	1056.78			V	Q	
18.250	672.5941	1056.78			V	Q	
18.333	679.1435	950.97			VQ		
18.417	685.6929	950.97			Q		
18.500	692.2422	950.97			Q		
18.583	698.1494	857.72			Q V		
18.667	704.0566	857.72			Q V		
18.750	709.9637	857.72			Q V		
18.833	715.4045	789.99			Q V		
18.917	720.8452	789.99			Q V		
19.000	726.2859	789.99			Q V		
19.083	731.3550	736.02			Q V		
19.167	736.4240	736.02			Q V		
19.250	741.4930	736.02			Q V		
19.333	746.2456	690.08		Q	V		
19.417	750.9982	690.08		Q	V		
19.500	755.7507	690.08		Q	V		
19.583	760.2323	650.73		Q	V		
19.667	764.7139	650.73		Q	V		
19.750	769.1954	650.73		Q	V		
19.833	773.4363	615.78		Q	V		
19.917	777.6772	615.78		Q	V		
20.000	781.9182	615.78		Q	V		

****
FLOW PROCESS FROM NODE 1.12 TO NODE 1.13 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3470.00
DOWNSTREAM ELEVATION = 3375.00
CHANNEL LENGTH(FT) = 7000.00 MANNING'S FACTOR = .040
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 1382.49
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1043.85
CHANNEL NORMAL VELOCITY FOR Q = 1043.85 CFS = 7.28 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .811

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .625

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	511.2	482.6	482.6
14.167	511.2	485.3	485.3

14.250	511.2	492.4	492.4
14.333	550.1	504.2	504.2
14.417	550.1	508.6	508.6
14.500	550.1	520.0	520.0
14.583	604.3	538.8	538.8
14.667	604.3	545.8	545.8
14.750	604.3	562.1	562.1
14.833	678.0	588.5	588.5
14.917	678.0	598.4	598.4
15.000	678.0	620.6	620.6
15.083	756.3	656.5	656.5
15.167	756.3	669.9	669.9
15.250	756.3	694.6	694.6
15.333	830.4	733.2	733.2
15.417	830.4	747.6	747.6
15.500	830.4	771.6	771.6
15.583	890.8	808.4	808.4
15.667	890.8	822.2	822.2
15.750	890.8	842.5	842.5
15.833	935.2	872.7	872.7
15.917	935.2	884.0	884.0
16.000	935.2	899.4	899.4
16.083	1009.9	921.7	921.7
16.167	1009.9	930.1	930.1
16.250	1009.9	952.0	952.0
16.333	1110.5	988.2	988.2
16.417	1110.5	1001.7	1001.7
16.500	1110.5	1032.1	1032.1
16.583	1225.6	1081.1	1081.1
16.667	1225.6	1099.5	1099.5
16.750	1225.6	1135.2	1135.2
16.833	1346.2	1191.7	1191.7
16.917	1346.2	1212.9	1212.9
17.000	1346.2	1251.1	1251.1
17.083	1377.5	1310.6	1310.6
17.167	1377.5	1332.8	1332.8
17.250	1377.5	1349.1	1349.1
17.333	1382.5	1366.9	1366.9
17.417	1382.5	1373.5	1373.5
17.500	1382.5	1377.3	1377.3
17.583	1321.7	1380.5	1380.5
17.667	1321.7	1381.8	1381.8
17.750	1321.7	1367.0	1367.0
17.833	1167.5	1338.6	1338.6
17.917	1167.5	1328.0	1328.0
18.000	1167.5	1285.4	1285.4
18.083	1056.8	1211.7	1211.7
18.167	1056.8	1184.0	1184.0
18.250	1056.8	1145.9	1145.9
18.333	951.0	1090.2	1090.2
18.417	951.0	1069.3	1069.3
18.500	951.0	1034.9	1034.9
18.583	857.7	982.4	982.4
18.667	857.7	962.8	962.8
18.750	857.7	932.0	932.0
18.833	790.0	885.5	885.5
18.917	790.0	868.1	868.1
19.000	790.0	844.6	844.6

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================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =   1010.786 AF
    OUTFLOW VOLUME =   1010.784 AF
    LOSS    VOLUME =       .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
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         TELEPHONE: (714) 586 - 6121          FAX: (714) 586 - 2217

 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 1.13 ROUTED TO 1.14                  *
*                                                                        *
 ************************************************************************

  FILE NAME: HYD113.INP
  TIME/DATE OF STUDY:  8:40   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.13 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    3715.180 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.771 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .400
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .300
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .050
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .225
        LOW LOSS FRACTION =  .255
        *HYDROGRAPH MODEL #3 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  14.116


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1               1.086              162.691
          2               3.733              396.388
          3               7.799              609.011
          4              14.312              975.421
          5              22.391             1210.003
          6              31.019             1292.169
          7              41.914             1631.686
          8              53.398             1719.944
          9              60.646             1085.469
         10              66.332              851.576
         11              70.848              676.434
         12              74.415              534.247
         13              77.358              440.711
         14              79.812              367.485
         15              81.927              316.884
         16              83.675              261.699
         17              85.223              231.867
         18              86.513              193.194
         19              87.609              164.208
         20              88.634              153.497
         21              89.557              138.258
         22              90.423              129.646
```

23	91.186	114.214
24	91.884	104.626
25	92.496	91.688
26	93.002	75.716
27	93.473	70.502
28	93.893	62.929
29	94.271	56.648
30	94.547	41.366
31	94.815	40.168
32	95.084	40.151
33	95.339	38.213
34	95.586	36.996
35	95.833	37.004
36	96.069	35.437
37	96.277	31.015
38	96.480	30.535
39	96.684	30.507
40	96.882	29.607
41	97.074	28.806
42	97.267	28.841
43	97.457	28.453
44	97.610	22.896
45	97.730	17.967
46	97.849	17.968
47	97.964	17.213
48	98.073	16.276
49	98.182	16.275
50	98.289	16.077
51	98.384	14.160
52	98.476	13.762
53	98.567	13.724
54	98.662	14.221
55	98.762	15.005
56	98.862	15.004
57	98.960	14.594
58	99.015	8.266
59	99.057	6.342
60	99.100	6.341
61	99.142	6.341
62	99.184	6.341
63	99.227	6.342
64	99.269	6.341
65	99.312	6.366
66	99.354	6.317
67	99.396	6.366
68	99.439	6.317
69	99.481	6.366
70	99.523	6.315
71	99.565	6.317
72	99.593	4.177
73	99.613	2.959
74	99.633	3.009
75	99.653	2.983
76	99.673	2.985
77	99.693	2.983
78	99.715	3.283
79	99.735	2.983
80	99.755	2.983
81	99.775	2.983
82	99.794	2.983
83	99.814	2.985
84	99.834	2.983
85	99.854	2.983
86	99.874	2.983
87	99.894	2.983
88	99.914	2.985
89	99.934	2.983
90	99.954	2.983
91	99.974	2.983
92	99.994	2.983
93	100.000	.946

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.13
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.43

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 349.8998
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1061.3450

```
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      375.0     750.0     1125.0    1500.0
--------------------------------------------------------------------------
  16.083    459.6873   1022.27  .         .      V  .      Q  .         .
  16.167    466.7277   1022.27  .         .      V  .      Q  .         .
  16.250    473.7682   1022.27  .         .      V  .      Q  .         .
  16.333    481.4084   1109.36  .         .       V .        Q.         .
  16.417    489.0486   1109.36  .         .       V .        Q.         .
  16.500    496.6888   1109.36  .         .       V .        Q.         .
  16.583    504.9257   1196.00  .         .        V.         .Q        .
  16.667    513.1626   1196.00  .         .        V.         .Q        .
  16.750    521.3995   1196.00  .         .        V.         .Q        .
  16.833    530.3226   1295.63  .         .        V.         .   Q     .
  16.917    539.2457   1295.63  .         .         V         .   Q     .
  17.000    548.1688   1295.63  .         .         V         .   Q     .
  17.083    557.4331   1345.18  .         .         .V        .    Q    .
  17.167    566.6974   1345.18  .         .         .V        .    Q    .
  17.250    575.9617   1345.18  .         .         .V        .    Q    .
  17.333    585.5042   1385.57  .         .         . V       .     Q   .
  17.417    595.0466   1385.57  .         .         . V       .     Q   .
  17.500    604.5891   1385.57  .         .         . V       .     Q   .
  17.583    614.6793   1465.09  .         .         .  V      .        Q.
  17.667    624.7694   1465.09  .         .         .  V      .        Q.
  17.750    634.8596   1465.09  .         .         .  V      .        Q.
  17.833    644.7382   1434.39  .         .         .   V     .       Q .
  17.917    654.6169   1434.39  .         .         .   V     .       Q .
  18.000    664.4955   1434.39  .         .         .    V    .       Q .
  18.083    673.1488   1256.45  .         .         .    V    .  Q      .
  18.167    681.8021   1256.45  .         .         .    V    .  Q      .
  18.250    690.4553   1256.45  .         .         .     V   .  Q      .
  18.333    698.4048   1154.27  .         .         .     V   Q         .
  18.417    706.3544   1154.27  .         .         .     V   Q         .
  18.500    714.3039   1154.27  .         .         .     V   Q         .
  18.583    721.4802   1041.99  .         .         .      Q  .         .
  18.667    728.6564   1041.99  .         .         .      Q  .         .
  18.750    735.8327   1041.99  .         .         .      Q  .         .
  18.833    742.2534    932.29  .         .         .   Q  V  .         .
  18.917    748.6741    932.29  .         .         .   Q   V .         .
  19.000    755.0948    932.29  .         .         .   Q   V .         .
  19.083    760.9785    854.30  .         .         . Q     V .         .
  19.167    766.8621    854.30  .         .         . Q     V .         .
  19.250    772.7457    854.30  .         .         . Q      V.         .
  19.333    778.1848    789.75  .         .         .Q       V.         .
  19.417    783.6238    789.75  .         .         .Q       V.         .
  19.500    789.0629    789.75  .         .         .Q       V.         .
  19.583    794.1407    737.30  .         .        Q.        V.         .
  19.667    799.2186    737.30  .         .        Q.         V         .
  19.750    804.2964    737.30  .         .        Q.         V         .
  19.833    809.0585    691.46  .         .       Q .         V         .
  19.917    813.8206    691.46  .         .       Q .         V         .
  20.000    818.5826    691.46  .         .       Q .         V         .

******************************************************************************
  FLOW PROCESS FROM NODE     1.13 TO NODE     1.14 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =    50.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3375.00
          DOWNSTREAM ELEVATION =    3285.00
          CHANNEL LENGTH(FT) =    4200.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  1465.09
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  1088.74
          CHANNEL NORMAL VELOCITY FOR Q =  1088.74 CFS =   9.37 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .846

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .801


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW      (STREAM 1)
         (HRS)       (CFS)       (CFS)        (CFS)
         14.083       521.9       500.4        500.4
         14.167       521.9       513.1        513.1
```

14.250	521.9	520.1	520.1
14.333	553.4	521.5	521.5
14.417	553.4	540.4	540.4
14.500	553.4	550.8	550.8
14.583	594.6	552.9	552.9
14.667	594.6	577.6	577.6
14.750	594.6	591.2	591.2
14.833	650.8	593.9	593.9
14.917	650.8	627.6	627.6
15.000	650.8	646.2	646.2
15.083	717.7	649.9	649.9
15.167	717.7	690.0	690.0
15.250	717.7	712.2	712.2
15.333	784.6	716.6	716.6
15.417	784.6	756.8	756.8
15.500	784.6	779.0	779.0
15.583	857.0	783.5	783.5
15.667	857.0	827.0	827.0
15.750	857.0	851.0	851.0
15.833	936.0	855.8	855.8
15.917	936.0	903.2	903.2
16.000	936.0	929.4	929.4
16.083	1022.3	934.7	934.7
16.167	1022.3	986.5	986.5
16.250	1022.3	1015.1	1015.1
16.333	1109.4	1020.8	1020.8
16.417	1109.4	1073.2	1073.2
16.500	1109.4	1102.2	1102.2
16.583	1196.0	1107.9	1107.9
16.667	1196.0	1160.1	1160.1
16.750	1196.0	1188.8	1188.8
16.833	1295.6	1194.6	1194.6
16.917	1295.6	1254.4	1254.4
17.000	1295.6	1287.4	1287.4
17.083	1345.2	1294.0	1294.0
17.167	1345.2	1324.5	1324.5
17.250	1345.2	1341.0	1341.0
17.333	1385.6	1344.4	1344.4
17.417	1385.6	1368.8	1368.8
17.500	1385.6	1382.2	1382.2
17.583	1465.1	1384.9	1384.9
17.667	1465.1	1432.2	1432.2
17.750	1465.1	1458.5	1458.5
17.833	1434.4	1463.8	1463.8
17.917	1434.4	1446.8	1446.8
18.000	1434.4	1436.9	1436.9
18.083	1256.5	1434.9	1434.9
18.167	1256.5	1329.8	1329.8
18.250	1256.5	1271.1	1271.1
18.333	1154.3	1259.4	1259.4
18.417	1154.3	1196.9	1196.9
18.500	1154.3	1162.8	1162.8
18.583	1042.0	1156.0	1156.0
18.667	1042.0	1088.5	1088.5
18.750	1042.0	1051.3	1051.3
18.833	932.3	1043.8	1043.8
18.917	932.3	977.8	977.8
19.000	932.3	941.4	941.4

==========

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 1061.345 AF
OUTFLOW VOLUME = 1061.345 AF
LOSS VOLUME = .000 AF

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END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
    USING ORANGE/SAN BERNARDINO COUNTY UNIT-HYDROGRAPH (1986 MANUAL)
      (c) Copyright 1989-92 Advanced Engineering Software (aes)
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                      Analysis prepared by:

                   R I V E R T E C H    I N C
              CONSULTANTS IN WATER RESOURCES ENGINEERING
       23332 MILL CREEK DRIVE, SUITE 100, LAGUNA HILLS, CA 92653
      TELEPHONE: (714) 586 - 6121          FAX: (714) 586 - 2217

 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 1.14 ROUTED TO 1.16                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD114.INP
  TIME/DATE OF STUDY:  8:41   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.14 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =   11095.670 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    1.896 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .400
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .195
         LOW LOSS FRACTION =  .220
         *HYDROGRAPH MODEL #3 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  13.186


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
         1                1.003               448.800
         2                3.356              1052.427
         3                6.895              1582.671
         4               12.299              2417.364
         5               19.310              3136.189
         6               27.244              3548.444
         7               36.275              4039.532
         8               48.483              5460.885
         9               56.937              3781.432
        10               63.087              2750.795
        11               67.974              2185.917
        12               71.898              1755.276
        13               75.047              1408.377
        14               77.695              1184.552
        15               79.946              1006.801
        16               81.927               885.903
        17               83.581               740.012
        18               85.081               670.805
        19               86.355               569.789
        20               87.467               497.510
        21               88.485               455.566
        22               89.412               414.335
```

23	90.280	388.134
24	91.046	342.757
25	91.764	321.138
26	92.405	286.828
27	92.984	258.995
28	93.464	214.576
29	93.918	203.192
30	94.325	182.003
31	94.694	165.282
32	94.961	119.167
33	95.219	115.625
34	95.478	115.577
35	95.728	112.039
36	95.966	106.193
37	96.203	106.224
38	96.440	106.022
39	96.641	89.799
40	96.824	81.841
41	97.007	81.868
42	97.189	81.493
43	97.360	76.514
44	97.527	74.759
45	97.694	74.766
46	97.859	73.568
47	98.008	66.545
48	98.154	65.279
49	98.276	54.762
50	98.378	45.425
51	98.468	40.415
52	98.558	40.098
53	98.647	40.098
54	98.733	38.163
55	98.812	35.382
56	98.891	35.354
57	98.970	35.378
58	99.052	36.784
59	99.136	37.740
60	99.221	37.712
61	99.303	36.917
62	99.342	17.247
63	99.368	11.794
64	99.395	11.794
65	99.421	11.794
66	99.447	11.818
67	99.474	11.770
68	99.500	11.767
69	99.527	11.872
70	99.553	11.712
71	99.579	11.876
72	99.606	11.767
73	99.632	11.767
74	99.658	11.818
75	99.685	11.770
76	99.711	11.767
77	99.728	7.736
78	99.741	5.515
79	99.753	5.566
80	99.765	5.563
81	99.778	5.566
82	99.790	5.515
83	99.803	5.778
84	99.815	5.511
85	99.828	5.511
86	99.840	5.515
87	99.852	5.511
88	99.865	5.515
89	99.877	5.511
90	99.889	5.511
91	99.902	5.515
92	99.914	5.511
93	99.926	5.515
94	99.939	5.511
95	99.951	5.511
96	99.963	5.515
97	99.976	5.511
98	99.988	5.515
99	100.000	5.368

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = .98
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.58

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 901.7747
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 3312.9420

```
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.     1150.0    2300.0    3450.0    4600.0
--------------------------------------------------------------------------
  16.083   1407.8330   3101.00  .         .     V   .     Q   .         .
  16.167   1429.1900   3101.00  .         .      V  .     Q   .         .
  16.250   1450.5470   3101.00  .         .      V  .     Q   .         .
  16.333   1473.7090   3363.19  .         .      V  .        Q.         .
  16.417   1496.8720   3363.19  .         .       V .        Q.         .
  16.500   1520.0340   3363.19  .         .       V .        Q.         .
  16.583   1544.8540   3603.87  .         .       V .         .Q        .
  16.667   1569.6740   3603.87  .         .       V .         .Q        .
  16.750   1594.4940   3603.87  .         .        V.         .Q        .
  16.833   1621.2320   3882.31  .         .        V.         .  Q      .
  16.917   1647.9700   3882.31  .         .        V.         .  Q      .
  17.000   1674.7070   3882.31  .         .         V         .  Q      .
  17.083   1702.5160   4037.84  .         .         V         .    Q    .
  17.167   1730.3250   4037.84  .         .         V         .    Q    .
  17.250   1758.1340   4037.84  .         .          V        .    Q    .
  17.333   1786.7160   4150.18  .         .         .V        .     Q   .
  17.417   1815.2990   4150.18  .         .         .V        .     Q   .
  17.500   1843.8810   4150.18  .         .         . V       .     Q   .
  17.583   1873.8070   4345.19  .         .         . V       .      Q  .
  17.667   1903.7330   4345.19  .         .         . V       .      Q  .
  17.750   1933.6580   4345.19  .         .         .  V      .      Q  .
  17.833   1964.9100   4537.78  .         .         .  V      .        Q.
  17.917   1996.1620   4537.78  .         .         .   V     .        Q.
  18.000   2027.4140   4537.78  .         .         .   V     .        Q.
  18.083   2055.2800   4046.12  .         .         .   V     .    Q    .
  18.167   2083.1460   4046.12  .         .         .    V    .    Q    .
  18.250   2111.0110   4046.12  .         .         .    V    .    Q    .
  18.333   2136.4200   3689.39  .         .         .    V    . Q       .
  18.417   2161.8290   3689.39  .         .         .     V   . Q       .
  18.500   2187.2380   3689.39  .         .         .     V   . Q       .
  18.583   2210.5090   3378.99  .         .         .     V  Q.         .
  18.667   2233.7810   3378.99  .         .         .     V  Q.         .
  18.750   2257.0520   3378.99  .         .         .      V Q.         .
  18.833   2277.9200   3030.04  .         .         .     QV  .         .
  18.917   2298.7880   3030.04  .         .         .     QV  .         .
  19.000   2319.6560   3030.04  .         .         .     Q V .         .
  19.083   2338.6420   2756.73  .         .         .  Q    V .         .
  19.167   2357.6280   2756.73  .         .         .  Q    V .         .
  19.250   2376.6140   2756.73  .         .         .  Q    V .         .
  19.333   2394.1670   2548.68  .         .         . Q     V .         .
  19.417   2411.7200   2548.68  .         .         . Q      V.         .
  19.500   2429.2730   2548.68  .         .         . Q      V.         .
  19.583   2445.6330   2375.56  .         .         Q        V.         .
  19.667   2461.9940   2375.56  .         .         Q        V.         .
  19.750   2478.3540   2375.56  .         .         Q        V.         .
  19.833   2493.7470   2235.04  .         .        Q.         V         .
  19.917   2509.1400   2235.04  .         .        Q.         V         .
  20.000   2524.5330   2235.04  .         .        Q.         V         .

******************************************************************************
  FLOW PROCESS FROM NODE     1.14 TO NODE     1.16 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =  100.00     CHANNEL Z =  2.00
          UPSTREAM ELEVATION =    3285.00
          DOWNSTREAM ELEVATION =    3145.00
          CHANNEL LENGTH(FT) =    9600.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  4537.78
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  3365.04
          CHANNEL NORMAL VELOCITY FOR Q =  3365.04 CFS =  11.38 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .870

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .710


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW      (STREAM 1)
         (HRS)       (CFS)       (CFS)        (CFS)
         14.083       1608.8      1541.0       1541.0
         14.167       1608.8      1545.6       1545.6
```

14.250	1608.8	1571.0	1571.0
14.333	1699.7	1597.8	1597.8
14.417	1699.7	1605.6	1605.6
14.500	1699.7	1643.6	1643.6
14.583	1817.0	1683.4	1683.4
14.667	1817.0	1695.0	1695.0
14.750	1817.0	1744.4	1744.4
14.833	1971.8	1795.9	1795.9
14.917	1971.8	1810.8	1810.8
15.000	1971.8	1876.0	1876.0
15.083	2160.4	1944.0	1944.0
15.167	2160.4	1963.7	1963.7
15.250	2160.4	2043.5	2043.5
15.333	2355.9	2126.4	2126.4
15.417	2355.9	2150.5	2150.5
15.500	2355.9	2234.3	2234.3
15.583	2553.3	2320.6	2320.6
15.667	2553.3	2345.7	2345.7
15.750	2553.3	2430.5	2430.5
15.833	2814.7	2517.7	2517.7
15.917	2814.7	2543.0	2543.0
16.000	2814.7	2653.0	2653.0
16.083	3101.0	2767.7	2767.7
16.167	3101.0	2801.0	2801.0
16.250	3101.0	2923.2	2923.2
16.333	3363.2	3049.3	3049.3
16.417	3363.2	3086.0	3086.0
16.500	3363.2	3199.6	3199.6
16.583	3603.9	3315.7	3315.7
16.667	3603.9	3349.4	3349.4
16.750	3603.9	3453.7	3453.7
16.833	3882.3	3560.3	3560.3
16.917	3882.3	3591.2	3591.2
17.000	3882.3	3709.6	3709.6
17.083	4037.8	3832.1	3832.1
17.167	4037.8	3867.7	3867.7
17.250	4037.8	3939.2	3939.2
17.333	4150.2	4009.2	4009.2
17.417	4150.2	4029.5	4029.5
17.500	4150.2	4079.6	4079.6
17.583	4345.2	4129.7	4129.7
17.667	4345.2	4144.2	4144.2
17.750	4345.2	4225.1	4225.1
17.833	4537.8	4310.3	4310.3
17.917	4537.8	4335.1	4335.1
18.000	4537.8	4417.9	4417.9
18.083	4046.1	4503.0	4503.0
18.167	4046.1	4527.7	4527.7
18.250	4046.1	4341.7	4341.7
18.333	3689.4	4132.0	4132.0
18.417	3689.4	4071.1	4071.1
18.500	3689.4	3913.2	3913.2
18.583	3379.0	3754.4	3754.4
18.667	3379.0	3708.3	3708.3
18.750	3379.0	3572.9	3572.9
18.833	3030.0	3435.3	3435.3
18.917	3030.0	3395.4	3395.4
19.000	3030.0	3246.7	3246.7

==========

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 3312.943 AF
OUTFLOW VOLUME = 3312.943 AF
LOSS VOLUME = .000 AF

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END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
    USING ORANGE/SAN BERNARDINO COUNTY UNIT-HYDROGRAPH (1986 MANUAL)
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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                             *
*                HYDROGRAPH AT NODE 1.16 ROUTED TO 1.17                 *
*                                                                       *
 *************************************************************************

  FILE NAME: HYD116.INP
  TIME/DATE OF STUDY:  8:42   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.16 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =   14167.440 ACRES
        BASEFLOW =    .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    2.130 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .400
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .222
        LOW LOSS FRACTION =   .259
        *HYDROGRAPH MODEL #4 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  15.649


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.192               510.454
        2                4.239              1305.462
        3                9.220              2133.332
        4               16.739              3220.983
        5               25.955              3947.238
        6               36.682              4595.078
        7               50.596              5960.068
        8               59.573              3844.914
        9               66.067              2782.050
       10               71.076              2145.375
       11               74.928              1650.057
       12               78.039              1332.440
       13               80.652              1119.415
       14               82.806               922.626
       15               84.665               796.089
       16               86.228               669.699
       17               87.552               566.940
       18               88.746               511.635
       19               89.810               455.752
       20               90.785               417.553
       21               91.644               367.990
       22               92.416               330.526
```

23	93.086	287.107
24	93.645	239.528
25	94.156	218.682
26	94.615	196.776
27	94.948	142.746
28	95.255	131.367
29	95.561	131.096
30	95.850	123.671
31	96.132	120.714
32	96.413	120.580
33	96.654	103.079
34	96.872	93.321
35	97.090	93.380
36	97.301	90.413
37	97.500	85.364
38	97.699	85.341
39	97.893	82.948
40	98.068	75.207
41	98.230	69.390
42	98.354	52.795
43	98.463	46.726
44	98.569	45.566
45	98.675	45.399
46	98.772	41.657
47	98.866	40.200
48	98.960	40.245
49	99.058	41.762
50	99.158	42.873
51	99.258	42.938
52	99.332	31.562
53	99.363	13.494
54	99.395	13.428
55	99.426	13.389
56	99.457	13.428
57	99.488	13.386
58	99.520	13.386
59	99.551	13.428
60	99.582	13.431
61	99.614	13.386
62	99.645	13.428
63	99.676	13.386
64	99.707	13.343
65	99.729	9.239
66	99.744	6.245
67	99.758	6.327
68	99.773	6.288
69	99.788	6.330
70	99.803	6.500
71	99.818	6.330
72	99.832	6.330
73	99.847	6.330
74	99.862	6.327
75	99.877	6.330
76	99.892	6.330
77	99.906	6.330
78	99.921	6.330
79	99.936	6.327
80	99.951	6.330
81	99.965	6.330
82	99.980	6.330
83	99.995	6.330
84	100.000	2.137

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.16
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.40

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 1367.9300
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 4013.7190

```
==========================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==========================================================================
                 HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.     1275.0    2550.0    3825.0    5100.0
--------------------------------------------------------------------------
  16.083   1639.9690   3560.50  .         .     V   .      Q  .         .
  16.167   1664.4900   3560.50  .         .     V   .      Q  .         .
  16.250   1689.0110   3560.50  .         .     V   .      Q  .         .
  16.333   1713.5330   3560.50  .         .      V  .      Q  .         .
  16.417   1740.8020   3959.47  .         .      V  .         .Q        .
  16.500   1768.0710   3959.47  .         .      V  .         .Q        .
  16.583   1795.3400   3959.47  .         .      V  .         .Q        .
  16.667   1822.6090   3959.47  .         .       V .         .Q        .
  16.750   1852.3980   4325.34  .         .       V .         .  Q      .
  16.833   1882.1870   4325.34  .         .       V .         .  Q      .
  16.917   1911.9750   4325.34  .         .        V.         .  Q      .
  17.000   1941.7640   4325.34  .         .        V.         .  Q      .
  17.083   1973.7970   4651.10  .         .        V.         .     Q   .
  17.167   2005.8290   4651.10  .         .        V.         .     Q   .
  17.250   2037.8610   4651.10  .         .         V         .     Q   .
  17.333   2069.8940   4651.10  .         .         V         .     Q   .
  17.417   2102.6790   4760.36  .         .         V         .      Q  .
  17.500   2135.4640   4760.36  .         .          V        .      Q  .
  17.583   2168.2490   4760.36  .         .          V        .      Q  .
  17.667   2201.0330   4760.36  .         .          V        .      Q  .
  17.750   2235.2410   4966.98  .         .         . V       .       Q .
  17.833   2269.4490   4966.98  .         .         . V       .       Q .
  17.917   2303.6570   4966.98  .         .         . V       .       Q .
  18.000   2337.8650   4966.98  .         .         .  V      .       Q .
  18.083   2372.7490   5065.14  .         .         .  V      .        Q.
  18.167   2407.6330   5065.14  .         .         .  V      .        Q.
  18.250   2442.5170   5065.14  .         .         .   V     .        Q.
  18.333   2477.4010   5065.14  .         .         .   V     .        Q.
  18.417   2508.2810   4483.77  .         .         .   V     .    Q    .
  18.500   2539.1600   4483.77  .         .         .    V    .    Q    .
  18.583   2570.0400   4483.77  .         .         .    V    .    Q    .
  18.667   2600.9200   4483.77  .         .         .    V    .    Q    .
  18.750   2628.5080   4005.72  .         .         .     V   .Q        .
  18.833   2656.0950   4005.72  .         .         .     V   .Q        .
  18.917   2683.6830   4005.72  .         .         .     V   .Q        .
  19.000   2711.2710   4005.72  .         .         .      V  .Q        .
  19.083   2735.5180   3520.69  .         .         .      Q  .         .
  19.167   2759.7650   3520.69  .         .         .      Q  .         .
  19.250   2784.0130   3520.69  .         .         .      Q  .         .
  19.333   2808.2600   3520.69  .         .         .      Q  .         .
  19.417   2829.9850   3154.47  .         .         .   Q   V .         .
  19.500   2851.7100   3154.47  .         .         .   Q   V .         .
  19.583   2873.4350   3154.47  .         .         .   Q   V .         .
  19.667   2895.1600   3154.47  .         .         .   Q   V .         .
  19.750   2914.9890   2879.15  .         .         . Q      V.         .
  19.833   2934.8180   2879.15  .         .         . Q      V.         .
  19.917   2954.6470   2879.15  .         .         . Q      V.         .
  20.000   2974.4760   2879.15  .         .         . Q      V.         .

******************************************************************************
 FLOW PROCESS FROM NODE     1.16 TO NODE     1.17 IS CODE =  52
--------------------------------------------------------------------------
 >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =  100.00     CHANNEL Z =  2.00
          UPSTREAM ELEVATION =    3145.00
          DOWNSTREAM ELEVATION =    3070.00
          CHANNEL LENGTH(FT) =    6900.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  5065.14
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  3858.14
          CHANNEL NORMAL VELOCITY FOR Q =  3858.14 CFS =  10.90 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .865

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .753


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW      (STREAM 1)
         (HRS)       (CFS)       (CFS)        (CFS)
         14.083       1913.7      1826.1       1826.1
         14.167       1913.7      1838.1       1838.1
```

14.250	1913.7	1895.1	1895.1
14.333	1913.7	1909.1	1909.1
14.417	2053.9	1912.6	1912.6
14.500	2053.9	1931.9	1931.9
14.583	2053.9	2023.8	2023.8
14.667	2053.9	2046.4	2046.4
14.750	2247.1	2052.0	2052.0
14.833	2247.1	2078.9	2078.9
14.917	2247.1	2205.6	2205.6
15.000	2247.1	2236.9	2236.9
15.083	2506.2	2244.6	2244.6
15.167	2506.2	2280.6	2280.6
15.250	2506.2	2450.5	2450.5
15.333	2506.2	2492.4	2492.4
15.417	2783.6	2502.8	2502.8
15.500	2783.6	2541.9	2541.9
15.583	2783.6	2723.9	2723.9
15.667	2783.6	2768.8	2768.8
15.750	3094.0	2779.9	2779.9
15.833	3094.0	2823.5	2823.5
15.917	3094.0	3027.3	3027.3
16.000	3094.0	3077.5	3077.5
16.083	3560.5	3089.9	3089.9
16.167	3560.5	3154.4	3154.4
16.250	3560.5	3460.3	3460.3
16.333	3560.5	3535.8	3535.8
16.417	3959.5	3554.4	3554.4
16.500	3959.5	3611.5	3611.5
16.583	3959.5	3873.6	3873.6
16.667	3959.5	3938.3	3938.3
16.750	4325.3	3954.2	3954.2
16.833	4325.3	4006.4	4006.4
16.917	4325.3	4246.6	4246.6
17.000	4325.3	4305.9	4305.9
17.083	4651.1	4320.6	4320.6
17.167	4651.1	4367.1	4367.1
17.250	4651.1	4581.0	4581.0
17.333	4651.1	4633.8	4633.8
17.417	4760.4	4646.8	4646.8
17.500	4760.4	4664.4	4664.4
17.583	4760.4	4736.7	4736.7
17.667	4760.4	4754.5	4754.5
17.750	4967.0	4758.9	4758.9
17.833	4967.0	4787.2	4787.2
17.917	4967.0	4922.6	4922.6
18.000	4967.0	4956.0	4956.0
18.083	5065.1	4964.3	4964.3
18.167	5065.1	4979.2	4979.2
18.250	5065.1	5043.9	5043.9
18.333	5065.1	5059.9	5059.9
18.417	4483.8	5063.9	5063.9
18.500	4483.8	4988.3	4988.3
18.583	4483.8	4608.3	4608.3
18.667	4483.8	4514.5	4514.5
18.750	4005.7	4491.4	4491.4
18.833	4005.7	4422.7	4422.7
18.917	4005.7	4108.6	4108.6
19.000	4005.7	4031.1	4031.1

```
================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =   4013.713 AF
    OUTFLOW VOLUME =   4013.716 AF
    LOSS    VOLUME =       .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                            DESIGN NODE 1.20                            *
*                 HYDROGRAPH AT NODE 2.07 ROUTED TO 2.09                 *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD207.INP
  TIME/DATE OF STUDY:  8:49   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     2.00 TO NODE     2.07 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =     790.000 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =     .835 HOURS
        VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .700
        VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .304
        LOW LOSS FRACTION =   .333
        *HYDROGRAPH MODEL #1 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .798
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =   5.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =   9.980


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1                .993                94.873
          2               3.107               201.935
          3               6.065               282.666
          4               9.759               352.955
          5              15.292               528.598
          6              22.045               645.123
          7              29.111               675.138
          8              35.379               598.864
          9              40.968               534.004
         10              46.956               572.013
         11              51.813               464.060
         12              55.382               341.026
         13              58.415               289.776
         14              60.941               241.287
         15              63.285               223.980
         16              65.307               193.138
         17              67.081               169.553
         18              68.785               162.729
         19              70.271               142.063
         20              71.719               138.262
         21              73.067               128.848
         22              74.301               117.875
```

23	75.516	116.094
24	76.598	103.406
25	77.654	100.870
26	78.635	93.732
27	79.526	85.077
28	80.406	84.077
29	81.208	76.662
30	81.995	75.133
31	82.725	69.824
32	83.386	63.146
33	84.040	62.413
34	84.633	56.698
35	85.214	55.498
36	85.755	51.696
37	86.244	46.746
38	86.732	46.568
39	87.206	45.293
40	87.677	44.996
41	88.100	40.484
42	88.460	34.357
43	88.820	34.339
44	89.179	34.328
45	89.538	34.317
46	89.889	33.540
47	90.228	32.422
48	90.568	32.430
49	90.907	32.416
50	91.246	32.403
51	91.556	29.559
52	91.825	25.721
53	92.094	25.738
54	92.363	25.708
55	92.632	25.702
56	92.893	24.939
57	93.143	23.826
58	93.392	23.795
59	93.641	23.806
60	93.890	23.774
61	94.126	22.554
62	94.341	20.590
63	94.552	20.143
64	94.755	19.357
65	94.957	19.332
66	95.153	18.668
67	95.335	17.430
68	95.518	17.477
69	95.700	17.424
70	95.883	17.451
71	96.055	16.482
72	96.210	14.807
73	96.365	14.780
74	96.520	14.780
75	96.674	14.754
76	96.834	15.279
77	97.003	16.115
78	97.171	16.089
79	97.340	16.115
80	97.509	16.116
81	97.643	12.827
82	97.714	6.753
83	97.783	6.675
84	97.853	6.675
85	97.923	6.675
86	97.993	6.675
87	98.063	6.648
88	98.132	6.649
89	98.203	6.753
90	98.273	6.648
91	98.342	6.649
92	98.412	6.702
93	98.482	6.701
94	98.552	6.648
95	98.622	6.649
96	98.692	6.701
97	98.761	6.649
98	98.831	6.701
99	98.902	6.702
100	98.971	6.649
101	99.029	5.497
102	99.063	3.246
103	99.096	3.193
104	99.128	3.037
105	99.161	3.141
106	99.194	3.141
107	99.227	3.194
108	99.259	3.089
109	99.293	3.193
110	99.329	3.455
111	99.362	3.193
112	99.396	3.193
113	99.429	3.193
114	99.463	3.194
115	99.496	3.193
116	99.530	3.193
117	99.563	3.194
118	99.596	3.193
119	99.630	3.193
120	99.663	3.194
121	99.697	3.193
122	99.730	3.193

123	99.764	3.193
124	99.797	3.194
125	99.830	3.193
126	99.864	3.193
127	99.897	3.194
128	99.931	3.193
129	99.964	3.193
130	99.998	3.194
131	100.000	.235

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.42
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.14

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 93.5117
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 206.5868

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 125.0 250.0 375.0 500.0
16.083	98.3997	310.68	
16.167	100.7338	338.91	
16.250	103.2119	359.83	
16.333	105.8459	382.45	
16.417	108.7777	425.69	
16.500	111.8521	446.41	
16.583	114.9649	451.97	
16.667	117.9931	439.70	
16.750	120.9150	424.27	
16.833	123.8109	420.47	
16.917	126.4218	379.11	
17.000	128.7680	340.67	
17.083	130.9552	317.58	
17.167	132.9449	288.91	
17.250	134.8055	270.16	
17.333	136.5408	251.97	
17.417	138.1810	238.15	
17.500	139.7621	229.57	
17.583	141.2642	218.11	
17.667	142.7230	211.81	
17.750	144.1306	204.39	
17.833	145.4902	197.41	
17.917	146.8185	192.87	
18.000	148.0953	185.40	
18.083	149.3401	180.75	
18.167	150.5453	174.99	
18.250	151.7113	169.30	
18.333	152.8524	165.70	
18.417	153.9579	160.51	
18.500	155.0405	157.20	
18.583	156.0958	153.22	
18.667	157.1233	149.19	
18.750	158.1326	146.56	
18.833	159.1141	142.51	
18.917	160.0759	139.65	
19.000	161.0146	136.29	
19.083	161.9306	133.01	
19.167	162.8336	131.12	
19.250	163.7207	128.80	
19.333	164.5937	126.77	
19.417	165.4479	124.02	
19.500	166.2821	121.13	
19.583	167.1046	119.43	
19.667	167.9129	117.36	
19.750	168.7084	115.50	
19.833	169.4920	113.78	
19.917	170.2646	112.19	
20.000	171.0290	110.99	

FLOW PROCESS FROM NODE 2.07 TO NODE 2.09 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 20.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3930.00
DOWNSTREAM ELEVATION = 3750.00
CHANNEL LENGTH(FT) = 7700.00 MANNING'S FACTOR = .040
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 451.97
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 338.12
CHANNEL NORMAL VELOCITY FOR Q = 338.12 CFS = 7.35 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .812

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .614

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	109.2	104.5	104.5
14.167	110.3	105.9	105.9

14.250	111.2	107.3	107.3
14.333	112.0	108.6	108.6
14.417	112.5	109.7	109.7
14.500	112.7	110.7	110.7
14.583	112.9	111.6	111.6
14.667	113.5	112.1	112.1
14.750	114.4	112.5	112.5
14.833	115.4	112.8	112.8
14.917	116.9	113.4	113.4
15.000	118.9	114.1	114.1
15.083	121.3	115.1	115.1
15.167	124.0	116.4	116.4
15.250	127.2	118.1	118.1
15.333	130.9	120.3	120.3
15.417	139.3	122.9	122.9
15.500	152.9	126.0	126.0
15.583	170.3	129.8	129.8
15.667	190.9	137.0	137.0
15.750	215.0	148.6	148.6
15.833	239.6	164.0	164.0
15.917	262.7	183.0	183.0
16.000	281.5	205.1	205.1
16.083	310.7	228.7	228.7
16.167	338.9	251.5	251.5
16.250	359.8	272.9	272.9
16.333	382.5	298.9	298.9
16.417	425.7	325.6	325.6
16.500	446.4	348.9	348.9
16.583	452.0	373.9	373.9
16.667	439.7	407.8	407.8
16.750	424.3	432.0	432.0
16.833	420.5	443.0	443.0
16.917	379.1	439.4	439.4
17.000	340.7	429.7	429.7
17.083	317.6	419.9	419.9
17.167	288.9	390.9	390.9
17.250	270.2	357.8	357.8
17.333	252.0	330.2	330.2
17.417	238.1	303.0	303.0
17.500	229.6	281.0	281.0
17.583	218.1	261.8	261.8
17.667	211.8	246.4	246.4
17.750	204.4	234.9	234.9
17.833	197.4	224.0	224.0
17.917	192.9	215.8	215.8
18.000	185.4	208.1	208.1
18.083	180.7	201.1	201.1
18.167	175.0	195.3	195.3
18.250	169.3	188.7	188.7
18.333	165.7	183.3	183.3
18.417	160.5	177.6	177.6
18.500	157.2	172.1	172.1
18.583	153.2	167.7	167.7
18.667	149.2	162.9	162.9
18.750	146.6	159.0	159.0
18.833	142.5	155.0	155.0
18.917	139.6	151.2	151.2
19.000	136.3	147.9	147.9

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 206.587 AF
OUTFLOW VOLUME = 206.587 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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          F L O O D   R O U T I N G   A N A L Y S I S
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                      Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 2.09 ROUTED TO 2.11                  *
*                                                                        *
 ************************************************************************

  FILE NAME: HYD209.INP
  TIME/DATE OF STUDY:  8:54   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     2.00 TO NODE     2.09 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    1529.300 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.126 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .332
        LOW LOSS FRACTION =  .376
        *HYDROGRAPH MODEL #2 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  14.802


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.421              131.403
        2                5.012              332.063
        3               10.464              504.235
        4               19.069              795.685
        5               29.011              919.413
        6               38.002              831.423
        7               47.380              867.233
        8               54.404              649.504
        9               59.292              452.042
       10               63.143              356.178
       11               66.353              296.838
       12               69.045              248.895
       13               71.383              216.224
       14               73.533              198.799
       15               75.425              174.984
       16               77.185              162.784
       17               78.764              146.010
       18               80.189              131.749
       19               81.501              121.290
       20               82.689              109.881
       21               83.799              102.628
       22               84.776               90.413
```

23	85.683	83.849
24	86.527	78.020
25	87.267	68.440
26	87.969	64.976
27	88.646	62.608
28	89.240	54.847
29	89.743	46.540
30	90.246	46.547
31	90.744	46.041
32	91.220	44.026
33	91.694	43.802
34	92.165	43.570
35	92.564	36.934
36	92.935	34.275
37	93.306	34.273
38	93.666	33.317
39	94.007	31.565
40	94.348	31.550
41	94.684	31.062
42	94.985	27.801
43	95.279	27.158
44	95.567	26.672
45	95.822	23.589
46	96.065	22.452
47	96.308	22.442
48	96.542	21.633
49	96.750	19.295
50	96.957	19.162
51	97.166	19.250
52	97.386	20.422
53	97.611	20.802
54	97.836	20.803
55	98.000	15.142
56	98.089	8.229
57	98.178	8.186
58	98.267	8.229
59	98.355	8.215
60	98.444	8.200
61	98.533	8.200
62	98.622	8.259
63	98.710	8.171
64	98.799	8.229
65	98.888	8.200
66	98.977	8.229
67	99.066	8.200
68	99.150	7.790
69	99.199	4.568
70	99.241	3.866
71	99.283	3.836
72	99.324	3.866
73	99.367	3.895
74	99.410	3.983
75	99.452	3.895
76	99.494	3.895
77	99.536	3.895
78	99.578	3.895
79	99.620	3.895
80	99.662	3.895
81	99.704	3.895
82	99.747	3.895
83	99.789	3.895
84	99.831	3.895
85	99.873	3.895
86	99.915	3.895
87	99.957	3.895
88	99.999	3.895
89	100.000	.065

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.65
TOTAL EFFECTIVE RAINFALL(INCHES) = 2.91

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 210.2969
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 370.6558

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 150.0 300.0 450.0 600.0
16.083	174.4677	386.41	
16.167	177.1289	386.41	
16.250	180.1306	435.84	
16.333	183.1322	435.84	
16.417	186.4557	482.57	
16.500	189.7791	482.57	
16.583	193.6060	555.66	
16.667	197.4328	555.66	
16.750	201.4775	587.29	
16.833	205.5222	587.29	
16.917	209.5121	579.33	
17.000	213.5020	579.33	
17.083	217.5407	586.41	
17.167	221.5793	586.41	
17.250	225.2284	529.84	
17.333	228.8774	529.84	
17.417	232.1792	479.42	
17.500	235.4810	479.42	
17.583	238.5273	442.33	
17.667	241.5737	442.33	
17.750	244.3796	407.41	
17.833	247.1854	407.41	
17.917	249.7723	375.62	
18.000	252.3592	375.62	
18.083	254.7459	346.55	
18.167	257.1327	346.55	
18.250	259.3686	324.66	
18.333	261.6046	324.66	
18.417	263.7097	305.67	
18.500	265.8149	305.67	
18.583	267.8231	291.58	
18.667	269.8312	291.58	
18.750	271.7444	277.80	
18.833	273.6577	277.80	
18.917	275.4899	266.05	
19.000	277.3222	266.05	
19.083	279.0850	255.96	
19.167	280.8478	255.96	
19.250	282.5421	246.01	
19.333	284.2364	246.01	
19.417	285.8713	237.38	
19.500	287.5062	237.38	
19.583	289.0771	228.11	
19.667	290.6481	228.11	
19.750	292.1662	220.42	
19.833	293.6842	220.42	
19.917	295.1521	213.14	
20.000	296.6200	213.14	

****
FLOW PROCESS FROM NODE 2.09 TO NODE 2.11 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 25.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3750.00
DOWNSTREAM ELEVATION = 3580.00
CHANNEL LENGTH(FT) = 7100.00 MANNING'S FACTOR = .038
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 587.29
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 422.30
CHANNEL NORMAL VELOCITY FOR Q = 422.30 CFS = 7.83 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .822

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .646

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	193.1	182.4	182.4
14.167	193.1	184.5	184.5

14.250	204.7	187.7	187.7
14.333	204.7	191.2	191.2
14.417	220.0	196.3	196.3
14.500	220.0	201.7	201.7
14.583	241.2	208.8	208.8
14.667	241.2	216.0	216.0
14.750	265.0	225.7	225.7
14.833	265.0	235.7	235.7
14.917	287.4	247.2	247.2
15.000	287.4	258.7	258.7
15.083	310.9	270.2	270.2
15.167	310.9	281.3	281.3
15.250	330.7	293.1	293.1
15.333	330.7	304.6	304.6
15.417	343.6	315.3	315.3
15.500	343.6	325.2	325.2
15.583	350.1	333.1	333.1
15.667	350.1	339.9	339.9
15.750	353.2	344.5	344.5
15.833	353.2	348.1	348.1
15.917	354.8	350.4	350.4
16.000	354.8	352.2	352.2
16.083	386.4	353.4	353.4
16.167	386.4	354.3	354.3
16.250	435.8	365.2	365.2
16.333	435.8	378.9	378.9
16.417	482.6	400.2	400.2
16.500	482.6	423.2	423.2
16.583	555.7	447.0	447.0
16.667	555.7	470.0	470.0
16.750	587.3	502.5	502.5
16.833	587.3	536.8	536.8
16.917	579.3	559.5	559.5
17.000	579.3	577.5	577.5
17.083	586.4	581.1	581.1
17.167	586.4	580.0	580.0
17.250	529.8	581.9	581.9
17.333	529.8	584.8	584.8
17.417	479.4	567.0	567.0
17.500	479.4	543.0	543.0
17.583	442.3	517.7	517.7
17.667	442.3	493.0	493.0
17.750	407.4	471.8	471.8
17.833	407.4	452.8	452.8
17.917	375.6	434.4	434.4
18.000	375.6	417.0	417.0
18.083	346.6	400.2	400.2
18.167	346.6	384.3	384.3
18.250	324.7	369.0	369.0
18.333	324.7	354.5	354.5
18.417	305.7	342.1	342.1
18.500	305.7	330.8	330.8
18.583	291.6	320.5	320.5
18.667	291.6	310.9	310.9
18.750	277.8	302.8	302.8
18.833	277.8	295.6	295.6
18.917	266.0	288.4	288.4
19.000	266.0	281.6	281.6

```
================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =     370.656 AF
    OUTFLOW VOLUME =     370.656 AF
    LOSS    VOLUME =        .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
```

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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
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                       Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                             *
*              HYDROGRAPH AT NODE 2.11 ROUTED TO 2.13                   *
*                                                                       *
 *************************************************************************

  FILE NAME: HYD211.INP
  TIME/DATE OF STUDY:  8:58   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     2.00 TO NODE     2.11 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    4047.600 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.378 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .100
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .500
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .242
        LOW LOSS FRACTION =   .271
        *HYDROGRAPH MODEL #2 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  12.095


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.097              268.537
        2                3.603              613.258
        3                7.202              880.991
        4               12.586             1317.655
        5               19.913             1793.211
        6               27.927             1961.604
        7               35.418             1833.343
        8               43.250             1917.032
        9               51.199             1945.405
       10               56.619             1326.765
       11               60.988             1069.269
       12               64.586              880.490
       13               67.641              747.919
       14               70.146              613.026
       15               72.367              543.538
       16               74.276              467.252
       17               76.067              438.393
       18               77.609              377.376
       19               79.055              353.971
       20               80.336              313.566
       21               81.517              288.917
       22               82.558              254.835
```

23	83.554	243.674
24	84.462	222.319
25	85.333	213.280
26	86.113	190.704
27	86.846	179.434
28	87.525	166.380
29	88.166	156.870
30	88.731	138.167
31	89.249	126.696
32	89.752	123.198
33	90.240	119.578
34	90.674	106.073
35	91.035	88.306
36	91.395	88.222
37	91.755	88.199
38	92.109	86.552
39	92.448	82.997
40	92.787	82.890
41	93.125	82.874
42	93.447	78.767
43	93.720	66.803
44	93.989	65.760
45	94.258	65.847
46	94.524	65.016
47	94.773	61.073
48	95.020	60.503
49	95.267	60.432
50	95.512	59.840
51	95.731	53.560
52	95.922	46.782
53	96.113	46.795
54	96.303	46.584
55	96.478	42.881
56	96.648	41.462
57	96.817	41.460
58	96.986	41.404
59	97.141	37.768
60	97.286	35.516
61	97.431	35.518
62	97.576	35.515
63	97.727	36.939
64	97.884	38.480
65	98.042	38.519
66	98.199	38.443
67	98.321	29.911
68	98.382	15.019
69	98.443	14.782
70	98.503	14.823
71	98.564	14.782
72	98.624	14.782
73	98.685	14.860
74	98.745	14.782
75	98.805	14.782
76	98.866	14.784
77	98.926	14.782
78	98.987	14.862
79	99.047	14.782
80	99.108	14.782
81	99.168	14.860
82	99.229	14.782
83	99.287	14.307
84	99.323	8.855
85	99.352	6.954
86	99.381	7.036
87	99.409	6.958
88	99.437	6.875
89	99.466	7.036
90	99.494	6.956
91	99.526	7.826
92	99.555	6.956
93	99.583	6.956
94	99.612	6.956
95	99.640	6.956
96	99.668	6.956
97	99.697	6.956
98	99.725	6.956
99	99.754	6.956
100	99.782	6.956
101	99.810	6.956
102	99.839	6.956
103	99.867	6.956
104	99.896	6.956
105	99.924	6.956
106	99.953	6.956
107	99.981	6.956
108	100.000	4.650

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.19
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.37

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 401.3140
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1136.2140

```
==========================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      425.0     850.0    1275.0    1700.0
--------------------------------------------------------------------------
  16.083    517.3205   1153.41  .         .       V .      Q  .         .
  16.167    525.2641   1153.41  .         .       V .      Q  .         .
  16.250    533.7961   1238.85  .         .       V .        Q.         .
  16.333    542.3282   1238.85  .         .        V.        Q.         .
  16.417    551.4508   1324.60  .         .        V.         .Q        .
  16.500    560.5734   1324.60  .         .        V.         .Q        .
  16.583    570.5547   1449.28  .         .         V         .   Q     .
  16.667    580.5359   1449.28  .         .         V         .   Q     .
  16.750    591.3021   1563.25  .         .         V         .     Q   .
  16.833    602.0683   1563.25  .         .          V        .     Q   .
  16.917    613.1910   1615.02  .         .         .V        .       Q .
  17.000    624.3137   1615.02  .         .         .V        .       Q .
  17.083    635.4097   1611.14  .         .         . V       .      Q  .
  17.167    646.5057   1611.14  .         .         . V       .      Q  .
  17.250    657.8068   1640.92  .         .         .  V      .       Q .
  17.333    669.1080   1640.92  .         .         .  V      .       Q .
  17.417    680.2147   1612.70  .         .         .  V      .      Q  .
  17.500    691.3215   1612.70  .         .         .   V     .      Q  .
  17.583    701.2484   1441.39  .         .         .   V     .  Q      .
  17.667    711.1754   1441.39  .         .         .    V    .  Q      .
  17.750    720.4570   1347.70  .         .         .    V    .Q        .
  17.833    729.7387   1347.70  .         .         .    V    .Q        .
  17.917    738.3600   1251.82  .         .         .    V   Q.         .
  18.000    746.9814   1251.82  .         .         .     V  Q.         .
  18.083    755.0123   1166.10  .         .         .     VQ  .         .
  18.167    763.0433   1166.10  .         .         .     VQ  .         .
  18.250    770.4718   1078.62  .         .         .    Q V  .         .
  18.333    777.9003   1078.62  .         .         .    Q V  .         .
  18.417    784.8138   1003.83  .         .         .  Q   V  .         .
  18.500    791.7272   1003.83  .         .         .  Q   V  .         .
  18.583    798.2173    942.35  .         .         . Q     V .         .
  18.667    804.7073    942.35  .         .         . Q     V .         .
  18.750    810.8862    897.17  .         .         .Q      V .         .
  18.833    817.0651    897.17  .         .         .Q      V .         .
  18.917    822.9235    850.63  .         .         Q       V .         .
  19.000    828.7818    850.63  .         .         Q        V.         .
  19.083    834.3989    815.60  .         .        Q.        V.         .
  19.167    840.0161    815.60  .         .        Q.        V.         .
  19.250    845.3922    780.61  .         .       Q .        V.         .
  19.333    850.7682    780.61  .         .       Q .        V.         .
  19.417    855.9431    751.38  .         .      Q  .         V         .
  19.500    861.1179    751.38  .         .      Q  .         V         .
  19.583    866.0922    722.27  .         .     Q   .         V         .
  19.667    871.0665    722.27  .         .     Q   .         V         .
  19.750    875.8783    698.67  .         .     Q   .         V         .
  19.833    880.6901    698.67  .         .     Q   .          V        .
  19.917    885.3365    674.66  .         .    Q    .         .V        .
  20.000    889.9830    674.66  .         .    Q    .         .V        .

**************************************************************************
  FLOW PROCESS FROM NODE     2.11 TO NODE     2.13 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =    30.00      CHANNEL Z =  3.00
          UPSTREAM ELEVATION =     3580.00
          DOWNSTREAM ELEVATION =     3400.00
          CHANNEL LENGTH(FT) =     9800.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =      .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  1640.92
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  1213.80
          CHANNEL NORMAL VELOCITY FOR Q =  1213.80 CFS =  10.32 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .859

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .677


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW      (STREAM 1)
         (HRS)       (CFS)       (CFS)        (CFS)
         14.083        575.6       545.3        545.3
         14.167        575.6       552.7        552.7
```

14.250	604.0	558.8	558.8
14.333	604.0	570.2	570.2
14.417	639.5	579.3	579.3
14.500	639.5	596.0	596.0
14.583	685.9	608.2	608.2
14.667	685.9	629.4	629.4
14.750	743.9	645.1	645.1
14.833	743.9	672.7	672.7
14.917	806.7	692.7	692.7
15.000	806.7	727.4	727.4
15.083	867.8	750.6	750.6
15.167	867.8	788.6	788.6
15.250	932.3	812.5	812.5
15.333	932.3	850.0	850.0
15.417	989.7	874.3	874.3
15.500	989.7	913.6	913.6
15.583	1024.7	937.2	937.2
15.667	1024.7	972.8	972.8
15.750	1051.2	990.9	990.9
15.833	1051.2	1013.8	1013.8
15.917	1076.8	1026.2	1026.2
16.000	1076.8	1043.1	1043.1
16.083	1153.4	1053.5	1053.5
16.167	1153.4	1069.3	1069.3
16.250	1238.9	1089.0	1089.0
16.333	1238.9	1132.6	1132.6
16.417	1324.6	1163.0	1163.0
16.500	1324.6	1214.4	1214.4
16.583	1449.3	1247.3	1247.3
16.667	1449.3	1299.7	1299.7
16.750	1563.2	1340.3	1340.3
16.833	1563.2	1414.1	1414.1
16.917	1615.0	1459.7	1459.7
17.000	1615.0	1529.8	1529.8
17.083	1611.1	1562.3	1562.3
17.167	1611.1	1598.0	1598.0
17.250	1640.9	1608.8	1608.8
17.333	1640.9	1610.4	1610.4
17.417	1612.7	1616.6	1616.6
17.500	1612.7	1633.1	1633.1
17.583	1441.4	1633.0	1633.0
17.667	1441.4	1619.3	1619.3
17.750	1347.7	1582.1	1582.1
17.833	1347.7	1486.8	1486.8
17.917	1251.8	1438.2	1438.2
18.000	1251.8	1376.9	1376.9
18.083	1166.1	1338.8	1338.8
18.167	1166.1	1279.9	1279.9
18.250	1078.6	1244.5	1244.5
18.333	1078.6	1191.4	1191.4
18.417	1003.8	1157.6	1157.6
18.500	1003.8	1104.1	1104.1
18.583	942.4	1072.6	1072.6
18.667	942.4	1026.0	1026.0
18.750	897.2	999.3	999.3
18.833	897.2	960.7	960.7
18.917	850.6	939.7	939.7
19.000	850.6	910.9	910.9

```
================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =    1136.214 AF
    OUTFLOW VOLUME =    1136.214 AF
    LOSS    VOLUME =        .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
```

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

          F L O O D    R O U T I N G    A N A L Y S I S
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                       Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                            DESIGN NODE 1.20                            *
*                HYDROGRAPH AT NODE 2.13 ROUTED TO 2.15                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD213.INP
  TIME/DATE OF STUDY:  9: 3   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     2.00 TO NODE     2.13 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    4510.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    1.642 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .100
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .500
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .248
         LOW LOSS FRACTION =   .280
         *HYDROGRAPH MODEL #3 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  15.225


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.381               251.133
        2                4.905               640.651
        3               10.459              1009.760
        4               19.201              1589.316
        5               29.183              1814.963
        6               38.578              1707.989
        7               48.904              1877.477
        8               56.304              1345.362
        9               61.742               988.669
       10               66.050               783.170
       11               69.464               620.757
       12               72.308               516.950
       13               74.710               436.699
       14               76.850               389.105
       15               78.705               337.247
       16               80.349               298.882
       17               81.808               265.412
       18               83.088               232.565
       19               84.277               216.194
       20               85.370               198.714
       21               86.337               175.921
       22               87.238               163.674
```

23	88.057	148.921
24	88.774	130.359
25	89.423	118.009
26	90.045	113.154
27	90.618	104.071
28	91.077	83.560
29	91.531	82.495
30	91.982	81.998
31	92.412	78.275
32	92.839	77.510
33	93.264	77.282
34	93.627	66.030
35	93.960	60.581
36	94.294	60.588
37	94.616	58.638
38	94.922	55.657
39	95.228	55.582
40	95.526	54.244
41	95.793	48.464
42	96.056	47.845
43	96.303	44.842
44	96.522	39.937
45	96.735	38.744
46	96.949	38.753
47	97.146	35.886
48	97.329	33.203
49	97.511	33.225
50	97.698	33.995
51	97.896	35.884
52	98.094	35.977
53	98.282	34.277
54	98.373	16.480
55	98.449	13.877
56	98.525	13.807
57	98.601	13.854
58	98.678	13.899
59	98.753	13.761
60	98.829	13.853
61	98.906	13.854
62	98.982	13.854
63	99.058	13.807
64	99.134	13.900
65	99.210	13.760
66	99.284	13.528
67	99.329	8.162
68	99.365	6.530
69	99.401	6.530
70	99.437	6.483
71	99.473	6.530
72	99.510	6.811
73	99.546	6.530
74	99.582	6.530
75	99.618	6.530
76	99.654	6.530
77	99.690	6.530
78	99.726	6.530
79	99.762	6.530
80	99.798	6.530
81	99.833	6.530
82	99.869	6.530
83	99.905	6.530
84	99.941	6.530
85	99.977	6.530
86	100.000	4.164

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.24
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.32

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 466.4881
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1246.6980

```
==============================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==============================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

------------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      425.0     850.0    1275.0    1700.0
------------------------------------------------------------------------------
  16.083    540.4676   1205.37  .         .      V  .       Q .         .
  16.167    548.7690   1205.37  .         .      V  .       Q .         .
  16.250    557.0705   1205.37  .         .      V  .       Q .         .
  16.333    566.1415   1317.11  .         .       V .         Q         .
  16.417    575.2125   1317.11  .         .       V .         Q         .
  16.500    584.2834   1317.11  .         .       V .         Q         .
  16.583    594.1987   1439.70  .         .        V.         .  Q      .
  16.667    604.1140   1439.70  .         .        V.         .  Q      .
  16.750    614.0293   1439.70  .         .        V.         .  Q      .
  16.833    624.9372   1583.82  .         .         V         .      Q  .
  16.917    635.8451   1583.82  .         .         V         .      Q  .
  17.000    646.7530   1583.82  .         .         V         .      Q  .
  17.083    658.0466   1639.84  .         .         .V        .       Q .
  17.167    669.3403   1639.84  .         .         .V        .       Q .
  17.250    680.6339   1639.84  .         .         .V        .       Q .
  17.333    691.8954   1635.17  .         .         . V       .       Q .
  17.417    703.1570   1635.17  .         .         . V       .       Q .
  17.500    714.4185   1635.17  .         .         . V       .       Q .
  17.583    725.6739   1634.28  .         .         .  V      .       Q .
  17.667    736.9293   1634.28  .         .         .  V      .       Q .
  17.750    748.1846   1634.28  .         .         .   V     .       Q .
  17.833    758.2653   1463.71  .         .         .   V     .   Q     .
  17.917    768.3460   1463.71  .         .         .   V     .   Q     .
  18.000    778.4267   1463.71  .         .         .   V     .   Q     .
  18.083    787.5243   1320.97  .         .         .    V    .Q        .
  18.167    796.6219   1320.97  .         .         .    V    .Q        .
  18.250    805.7195   1320.97  .         .         .    V    .Q        .
  18.333    814.0072   1203.38  .         .         .     V Q .         .
  18.417    822.2949   1203.38  .         .         .     V Q .         .
  18.500    830.5826   1203.38  .         .         .     V Q .         .
  18.583    838.0641   1086.30  .         .         .    QV   .         .
  18.667    845.5455   1086.30  .         .         .    Q V  .         .
  18.750    853.0270   1086.30  .         .         .    Q V  .         .
  18.833    859.9080    999.12  .         .         .  Q   V  .         .
  18.917    866.7889    999.12  .         .         .  Q   V  .         .
  19.000    873.6699    999.12  .         .         .  Q    V .         .
  19.083    880.0763    930.20  .         .         .Q      V .         .
  19.167    886.4827    930.20  .         .         .Q      V .         .
  19.250    892.8890    930.20  .         .         .Q      V .         .
  19.333    898.9178    875.38  .         .         Q       V .         .
  19.417    904.9467    875.38  .         .         Q        V.         .
  19.500    910.9755    875.38  .         .         Q        V.         .
  19.583    916.6733    827.32  .         .        Q.        V.         .
  19.667    922.3711    827.32  .         .        Q.        V.         .
  19.750    928.0689    827.32  .         .        Q.        V.         .
  19.833    933.4785    785.48  .         .       Q .        V.         .
  19.917    938.8881    785.48  .         .       Q .         V         .
  20.000    944.2977    785.48  .         .       Q .         V         .

******************************************************************************
  FLOW PROCESS FROM NODE     2.13 TO NODE     2.15 IS CODE =  52
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==============================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =    30.00      CHANNEL Z =  3.00
          UPSTREAM ELEVATION =     3400.00
          DOWNSTREAM ELEVATION =     3300.00
          CHANNEL LENGTH(FT) =     5800.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =      .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  1639.84
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  1220.03
          CHANNEL NORMAL VELOCITY FOR Q =  1220.03 CFS =  10.12 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .856

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .762


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW      (STREAM 1)
         (HRS)       (CFS)       (CFS)        (CFS)
         14.083        615.7       586.9        586.9
         14.167        615.7       595.2        595.2
```

14.250	615.7	610.8	610.8
14.333	659.4	614.5	614.5
14.417	659.4	627.5	627.5
14.500	659.4	651.8	651.8
14.583	718.0	657.6	657.6
14.667	718.0	675.2	675.2
14.750	718.0	707.9	707.9
14.833	798.5	715.6	715.6
14.917	798.5	739.8	739.8
15.000	798.5	784.6	784.6
15.083	889.3	795.2	795.2
15.167	889.3	822.9	822.9
15.250	889.3	873.5	873.5
15.333	971.3	885.5	885.5
15.417	971.3	911.2	911.2
15.500	971.3	957.0	957.0
15.583	1048.1	967.9	967.9
15.667	1048.1	991.8	991.8
15.750	1048.1	1034.7	1034.7
15.833	1110.3	1044.9	1044.9
15.917	1110.3	1064.6	1064.6
16.000	1110.3	1099.4	1099.4
16.083	1205.4	1107.7	1107.7
16.167	1205.4	1136.0	1136.0
16.250	1205.4	1188.9	1188.9
16.333	1317.1	1201.4	1201.4
16.417	1317.1	1235.4	1235.4
16.500	1317.1	1297.7	1297.7
16.583	1439.7	1312.5	1312.5
16.667	1439.7	1350.0	1350.0
16.750	1439.7	1418.4	1418.4
16.833	1583.8	1434.6	1434.6
16.917	1583.8	1478.5	1478.5
17.000	1583.8	1558.8	1558.8
17.083	1639.8	1577.9	1577.9
17.167	1639.8	1597.9	1597.9
17.250	1639.8	1629.9	1629.9
17.333	1635.2	1637.5	1637.5
17.417	1635.2	1638.0	1638.0
17.500	1635.2	1635.8	1635.8
17.583	1634.3	1635.3	1635.3
17.667	1634.3	1635.0	1635.0
17.750	1634.3	1634.4	1634.4
17.833	1463.7	1634.3	1634.3
17.917	1463.7	1587.0	1587.0
18.000	1463.7	1493.0	1493.0
18.083	1321.0	1470.7	1470.7
18.167	1321.0	1425.8	1425.8
18.250	1321.0	1345.9	1345.9
18.333	1203.4	1326.9	1326.9
18.417	1203.4	1289.8	1289.8
18.500	1203.4	1223.9	1223.9
18.583	1086.3	1208.3	1208.3
18.667	1086.3	1172.1	1172.1
18.750	1086.3	1106.7	1106.7
18.833	999.1	1091.2	1091.2
18.917	999.1	1063.3	1063.3
19.000	999.1	1014.4	1014.4

```
================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =    1246.697 AF
    OUTFLOW VOLUME =    1246.698 AF
    LOSS    VOLUME =        .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
    USING ORANGE/SAN BERNARDINO COUNTY UNIT-HYDROGRAPH (1986 MANUAL)
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 ************************* DESCRIPTION OF STUDY *************************
*                           DESIGN NODE 1.20                             *
*                HYDROGRAPH AT NODE 2.15 ROUTED TO 2.17                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD215.INP
  TIME/DATE OF STUDY:  9: 7   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     2.00 TO NODE     2.15 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    5333.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    1.801 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .400
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .252
         LOW LOSS FRACTION =   .288
         *HYDROGRAPH MODEL #3 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  13.881


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1                1.206              259.347
          2                4.122              626.837
          3                8.580              958.313
          4               15.627             1515.020
          5               24.385             1882.883
          6               33.201             1895.343
          7               42.487             1996.416
          8               51.989             2042.750
          9               58.490             1397.728
         10               63.577             1093.582
         11               67.695              885.280
         12               70.969              703.812
         13               73.685              583.990
         14               75.962              489.438
         15               78.015              441.450
         16               79.745              371.924
         17               81.321              338.728
         18               82.676              291.365
         19               83.876              258.003
         20               84.973              235.826
         21               85.976              215.549
         22               86.919              202.892
```

23	87.750	178.662
24	88.538	169.244
25	89.259	155.053
26	89.900	137.896
27	90.455	119.359
28	90.992	115.311
29	91.508	111.097
30	91.933	91.294
31	92.311	81.179
32	92.688	81.174
33	93.062	80.297
34	93.418	76.552
35	93.772	76.104
36	94.126	76.081
37	94.440	67.565
38	94.716	59.419
39	94.993	59.427
40	95.268	59.105
41	95.524	55.097
42	95.776	54.085
43	96.027	54.063
44	96.268	51.788
45	96.484	46.474
46	96.689	44.053
47	96.882	41.412
48	97.058	37.914
49	97.226	36.132
50	97.394	36.100
51	97.558	35.343
52	97.706	31.712
53	97.852	31.327
54	97.997	31.327
55	98.148	32.440
56	98.305	33.695
57	98.462	33.698
58	98.614	32.731
59	98.688	15.946
60	98.744	11.931
61	98.799	11.954
62	98.855	11.931
63	98.910	11.906
64	98.966	11.954
65	99.021	11.956
66	99.077	11.906
67	99.132	11.954
68	99.188	11.954
69	99.243	11.906
70	99.299	11.956
71	99.355	11.954
72	99.410	11.906
73	99.452	9.051
74	99.478	5.614
75	99.504	5.662
76	99.531	5.614
77	99.557	5.614
78	99.583	5.565
79	99.611	6.002
80	99.636	5.567
81	99.662	5.565
82	99.688	5.567
83	99.714	5.565
84	99.740	5.567
85	99.766	5.567
86	99.792	5.565
87	99.818	5.567
88	99.844	5.565
89	99.869	5.567
90	99.895	5.567
91	99.921	5.565
92	99.947	5.567
93	99.973	5.565
94	99.999	5.567
95	100.000	.239

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.28
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.28

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 567.0319
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1458.7900

```
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      475.0     950.0    1425.0    1900.0
--------------------------------------------------------------------------
  16.083    618.5072   1373.96  .         .     V  .       Q .         .
  16.167    627.9697   1373.96  .         .      V  .       Q .         .
  16.250    637.4323   1373.96  .         .      V  .       Q .         .
  16.333    647.7163   1493.25  .         .      V  .         .Q        .
  16.417    658.0004   1493.25  .         .       V .         .Q        .
  16.500    668.2844   1493.25  .         .       V .         .Q        .
  16.583    679.4075   1615.07  .         .       V .         .   Q     .
  16.667    690.5306   1615.07  .         .       V .         .   Q     .
  16.750    701.6537   1615.07  .         .        V.         .   Q     .
  16.833    713.8489   1770.74  .         .        V.         .      Q  .
  16.917    726.0440   1770.74  .         .        V.         .      Q  .
  17.000    738.2391   1770.74  .         .         V         .      Q  .
  17.083    751.0024   1853.23  .         .         V         .        Q.
  17.167    763.7657   1853.23  .         .         V         .        Q.
  17.250    776.5291   1853.23  .         .          V        .        Q.
  17.333    789.3890   1867.27  .         .         .V        .        Q.
  17.417    802.2490   1867.27  .         .         .V        .        Q.
  17.500    815.1090   1867.27  .         .         . V       .        Q.
  17.583    828.1165   1888.69  .         .         . V       .        Q.
  17.667    841.1240   1888.69  .         .         .  V      .        Q.
  17.750    854.1315   1888.69  .         .         .  V      .        Q.
  17.833    866.7719   1835.38  .         .         .  V      .       Q .
  17.917    879.4123   1835.38  .         .         .   V     .       Q .
  18.000    892.0527   1835.38  .         .         .   V     .       Q .
  18.083    903.2958   1632.50  .         .         .   V     .   Q     .
  18.167    914.5389   1632.50  .         .         .    V    .   Q     .
  18.250    925.7820   1632.50  .         .         .    V    .   Q     .
  18.333    936.0792   1495.16  .         .         .    V    .Q        .
  18.417    946.3765   1495.16  .         .         .    V    .Q        .
  18.500    956.6737   1495.16  .         .         .     V   .Q        .
  18.583    966.0651   1363.63  .         .         .     V Q .         .
  18.667    975.4564   1363.63  .         .         .     V Q .         .
  18.750    984.8478   1363.63  .         .         .      VQ .         .
  18.833    993.3492   1234.41  .         .         .    Q V  .         .
  18.917   1001.8510   1234.41  .         .         .    Q V  .         .
  19.000   1010.3520   1234.41  .         .         .    Q V  .         .
  19.083   1018.1980   1139.26  .         .         .  Q   V  .         .
  19.167   1026.0440   1139.26  .         .         .  Q    V .         .
  19.250   1033.8910   1139.26  .         .         .  Q    V .         .
  19.333   1041.2000   1061.34  .         .         . Q     V .         .
  19.417   1048.5100   1061.34  .         .         . Q     V .         .
  19.500   1055.8190   1061.34  .         .         . Q     V .         .
  19.583   1062.7060   1000.00  .         .         .Q       V.         .
  19.667   1069.5930   1000.00  .         .         .Q       V.         .
  19.750   1076.4800   1000.00  .         .         .Q       V.         .
  19.833   1082.9780    943.51  .         .        Q.        V.         .
  19.917   1089.4760    943.51  .         .        Q.        V.         .
  20.000   1095.9740    943.51  .         .        Q.         V         .

******************************************************************************
  FLOW PROCESS FROM NODE     2.15 TO NODE     2.17 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   30.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3300.00
          DOWNSTREAM ELEVATION =    3175.00
          CHANNEL LENGTH(FT) =    8000.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  1888.69
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  1427.11
          CHANNEL NORMAL VELOCITY FOR Q =  1427.11 CFS =  11.41 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .870

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .741


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW     ROUTED       LOSS
          TIME      (STREAM 1)    FLOW     (STREAM 1)
         (HRS)       (CFS)       (CFS)       (CFS)
         14.083        707.9       676.4       676.4
         14.167        707.9       677.4       677.4
```

14.250	707.9	699.2	699.2
14.333	753.3	705.7	705.7
14.417	753.3	707.3	707.3
14.500	753.3	740.3	740.3
14.583	812.4	749.9	749.9
14.667	812.4	752.4	752.4
14.750	812.4	795.4	795.4
14.833	892.9	808.0	808.0
14.917	892.9	811.3	811.3
15.000	892.9	869.7	869.7
15.083	988.8	886.9	886.9
15.167	988.8	891.4	891.4
15.250	988.8	961.1	961.1
15.333	1080.1	981.6	981.6
15.417	1080.1	986.9	986.9
15.500	1080.1	1053.7	1053.7
15.583	1165.1	1073.3	1073.3
15.667	1165.1	1078.4	1078.4
15.750	1165.1	1140.5	1140.5
15.833	1257.0	1158.8	1158.8
15.917	1257.0	1163.5	1163.5
16.000	1257.0	1230.5	1230.5
16.083	1374.0	1250.2	1250.2
16.167	1374.0	1255.3	1255.3
16.250	1374.0	1340.3	1340.3
16.333	1493.2	1365.2	1365.2
16.417	1493.2	1371.7	1371.7
16.500	1493.2	1458.8	1458.8
16.583	1615.1	1484.3	1484.3
16.667	1615.1	1490.9	1490.9
16.750	1615.1	1579.9	1579.9
16.833	1770.7	1605.9	1605.9
16.917	1770.7	1612.7	1612.7
17.000	1770.7	1725.9	1725.9
17.083	1853.2	1759.1	1759.1
17.167	1853.2	1767.7	1767.7
17.250	1853.2	1829.0	1829.0
17.333	1867.3	1847.0	1847.0
17.417	1867.3	1851.6	1851.6
17.500	1867.3	1862.9	1862.9
17.583	1888.7	1866.1	1866.1
17.667	1888.7	1867.0	1867.0
17.750	1888.7	1882.5	1882.5
17.833	1835.4	1887.1	1887.1
17.917	1835.4	1888.3	1888.3
18.000	1835.4	1850.4	1850.4
18.083	1632.5	1839.3	1839.3
18.167	1632.5	1836.4	1836.4
18.250	1632.5	1690.4	1690.4
18.333	1495.2	1647.5	1647.5
18.417	1495.2	1636.4	1636.4
18.500	1495.2	1535.2	1535.2
18.583	1363.6	1505.5	1505.5
18.667	1363.6	1497.9	1497.9
18.750	1363.6	1401.7	1401.7
18.833	1234.4	1373.5	1373.5
18.917	1234.4	1366.2	1366.2
19.000	1234.4	1271.8	1271.8

```
================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =    1458.788 AF
    OUTFLOW VOLUME =    1458.790 AF
    LOSS    VOLUME =        .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
```

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**************************************************************************

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                       Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 2.17 ROUTED TO 1.17                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD217.INP
  TIME/DATE OF STUDY:  9:12   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     2.00 TO NODE     2.17 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    5852.000 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.996 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .400
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .200
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .246
        LOW LOSS FRACTION =  .279
        *HYDROGRAPH MODEL #3 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  12.525


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1               1.070               252.422
          2               3.536               581.636
          3               7.154               853.734
          4              12.789              1329.271
          5              20.277              1766.406
          6              28.379              1911.288
          7              36.240              1854.480
          8              45.212              2116.782
          9              53.317              1911.905
         10              59.188              1385.120
         11              63.932              1119.042
         12              67.839               921.834
         13              71.023               751.084
         14              73.657               621.291
         15              75.867               521.293
         16              77.844               466.537
         17              79.555               403.622
         18              81.046               351.730
         19              82.399               319.155
         20              83.561               274.222
         21              84.589               242.340
         22              85.537               223.798
```

23	86.421	208.425
24	87.249	195.418
25	88.006	178.643
26	88.705	164.725
27	89.359	154.299
28	89.966	143.334
29	90.482	121.633
30	90.953	111.081
31	91.407	107.154
32	91.848	103.961
33	92.221	88.030
34	92.542	75.665
35	92.862	75.640
36	93.183	75.635
37	93.492	72.942
38	93.793	70.910
39	94.093	70.925
40	94.393	70.836
41	94.654	61.346
42	94.888	55.360
43	95.123	55.342
44	95.357	55.342
45	95.580	52.590
46	95.795	50.633
47	96.009	50.621
48	96.224	50.603
49	96.421	46.441
50	96.605	43.526
51	96.789	43.342
52	96.954	38.977
53	97.108	36.184
54	97.253	34.273
55	97.398	34.285
56	97.543	34.211
57	97.677	31.431
58	97.802	29.534
59	97.927	29.532
60	98.052	29.593
61	98.184	30.945
62	98.319	31.915
63	98.454	31.917
64	98.589	31.740
65	98.671	19.517
66	98.722	11.830
67	98.772	11.802
68	98.822	11.830
69	98.872	11.830
70	98.922	11.773
71	98.972	11.830
72	99.022	11.890
73	99.072	11.771
74	99.122	11.773
75	99.173	11.890
76	99.222	11.771
77	99.273	11.830
78	99.323	11.830
79	99.373	11.832
80	99.423	11.713
81	99.455	7.768
82	99.479	5.652
83	99.503	5.473
84	99.526	5.592
85	99.550	5.533
86	99.573	5.533
87	99.597	5.709
88	99.624	6.181
89	99.648	5.709
90	99.672	5.709
91	99.696	5.711
92	99.720	5.709
93	99.745	5.711
94	99.769	5.709
95	99.793	5.709
96	99.817	5.711
97	99.841	5.709
98	99.866	5.711
99	99.890	5.709
100	99.914	5.709
101	99.938	5.711
102	99.962	5.709
103	99.987	5.711
104	100.000	3.150

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.24
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.32

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 602.9991
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1619.9630

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	525.0	1050.0	1575.0	2100.0
16.083	665.6935	1460.44			V	Q	
16.167	675.7516	1460.44			V	Q	
16.250	685.8098	1460.44			V	Q	
16.333	696.7281	1585.35			V	Q	
16.417	707.6465	1585.35			V	Q	
16.500	718.5649	1585.35			V	Q	
16.583	730.2751	1700.32			V	Q	
16.667	741.9854	1700.32			V	Q	
16.750	753.6956	1700.32			V	Q	
16.833	766.4836	1856.82			V	Q	
16.917	779.2716	1856.82			V	Q	
17.000	792.0596	1856.82			V	Q	
17.083	805.6179	1968.66			V	Q	
17.167	819.1762	1968.66			V	Q	
17.250	832.7345	1968.66			V	Q	
17.333	846.4775	1995.49			V	Q	
17.417	860.2206	1995.49			V	Q	
17.500	873.9636	1995.49			V	Q	
17.583	887.7064	1995.45			V	Q	
17.667	901.4491	1995.45			V	Q	
17.750	915.1918	1995.45			V	Q	
17.833	929.1078	2020.60			V	Q	
17.917	943.0237	2020.60			V	Q	
18.000	956.9397	2020.60			V	Q	
18.083	970.0700	1906.52			V	Q	
18.167	983.2003	1906.52			V	Q	
18.250	996.3306	1906.52			V	Q	
18.333	1008.2120	1725.16			V	Q	
18.417	1020.0930	1725.16			V	Q	
18.500	1031.9740	1725.16			V	Q	
18.583	1042.9470	1593.15			V	Q	
18.667	1053.9190	1593.15			V	Q	
18.750	1064.8910	1593.15			V	Q	
18.833	1074.9350	1458.42			VQ		
18.917	1084.9790	1458.42			VQ		
19.000	1095.0230	1458.42			Q		
19.083	1104.2070	1333.49			Q V		
19.167	1113.3910	1333.49			Q V		
19.250	1122.5750	1333.49			Q V		
19.333	1131.0770	1234.50		Q	V		
19.417	1139.5790	1234.50		Q	V		
19.500	1148.0810	1234.50		Q	V		
19.583	1156.0200	1152.74		Q	V		
19.667	1163.9590	1152.74		Q	V		
19.750	1171.8980	1152.74		Q	V		
19.833	1179.3890	1087.76		Q	V		
19.917	1186.8810	1087.76		Q	V		
20.000	1194.3720	1087.76		Q	V		

****
FLOW PROCESS FROM NODE 2.17 TO NODE 1.17 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 35.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3175.00
DOWNSTREAM ELEVATION = 3070.00
CHANNEL LENGTH(FT) = 7500.00 MANNING'S FACTOR = .030
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 2020.60
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1515.14
CHANNEL NORMAL VELOCITY FOR Q = 1515.14 CFS = 10.88 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .865

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .738

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	767.6	736.3	736.3
14.167	767.6	737.5	737.5

14.250	767.6	759.7	759.7
14.333	812.3	765.5	765.5
14.417	812.3	767.5	767.5
14.500	812.3	800.5	800.5
14.583	869.3	809.2	809.2
14.667	869.3	812.0	812.0
14.750	869.3	854.3	854.3
14.833	945.6	865.4	865.4
14.917	945.6	869.0	869.0
15.000	945.6	925.5	925.5
15.083	1040.1	940.3	940.3
15.167	1040.1	945.1	945.1
15.250	1040.1	1015.2	1015.2
15.333	1134.9	1033.5	1033.5
15.417	1134.9	1039.3	1039.3
15.500	1134.9	1109.8	1109.8
15.583	1219.5	1128.3	1128.3
15.667	1219.5	1133.9	1133.9
15.750	1219.5	1197.1	1197.1
15.833	1320.4	1213.7	1213.7
15.917	1320.4	1219.0	1219.0
16.000	1320.4	1293.8	1293.8
16.083	1460.4	1313.4	1313.4
16.167	1460.4	1319.9	1319.9
16.250	1460.4	1423.6	1423.6
16.333	1585.4	1450.8	1450.8
16.417	1585.4	1459.1	1459.1
16.500	1585.4	1552.2	1552.2
16.583	1700.3	1576.7	1576.7
16.667	1700.3	1584.2	1584.2
16.750	1700.3	1669.9	1669.9
16.833	1856.8	1692.3	1692.3
16.917	1856.8	1699.7	1699.7
17.000	1856.8	1815.6	1815.6
17.083	1968.7	1846.0	1846.0
17.167	1968.7	1855.1	1855.1
17.250	1968.7	1938.9	1938.9
17.333	1995.5	1960.9	1960.9
17.417	1995.5	1966.9	1966.9
17.500	1995.5	1988.0	1988.0
17.583	1995.4	1993.5	1993.5
17.667	1995.4	1995.0	1995.0
17.750	1995.4	1995.3	1995.3
17.833	2020.6	1995.4	1995.4
17.917	2020.6	1995.7	1995.7
18.000	2020.6	2014.1	2014.1
18.083	1906.5	2018.9	2018.9
18.167	1906.5	2019.1	2019.1
18.250	1906.5	1936.0	1936.0
18.333	1725.2	1914.3	1914.3
18.417	1725.2	1906.8	1906.8
18.500	1725.2	1772.8	1772.8
18.583	1593.1	1737.6	1737.6
18.667	1593.1	1727.2	1727.2
18.750	1593.1	1628.3	1628.3
18.833	1458.4	1602.4	1602.4
18.917	1458.4	1594.3	1594.3
19.000	1458.4	1494.0	1494.0

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 1619.963 AF
OUTFLOW VOLUME = 1619.963 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

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                       Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*              HYDROGRAPH AT NODE 3.07 ROUTED TO 3.10                    *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD307.INP
  TIME/DATE OF STUDY:  9:35   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     3.00 TO NODE     3.07 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =     684.600 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.393 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .700
        VALLEY(UNDEVELOPED/DESERT):
              "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .253
        LOW LOSS FRACTION =  .292
        *HYDROGRAPH MODEL #2 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  11.965


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
       1                1.190                49.282
       2                3.916               112.840
       3                7.786               160.181
       4               13.437               233.939
       5               21.312               325.988
       6               29.715               347.862
       7               37.038               303.176
       8               43.872               282.896
       9               50.498               274.288
      10               55.003               186.494
      11               58.641               150.603
      12               61.630               123.743
      13               64.312               111.041
      14               66.524                91.558
      15               68.590                85.527
      16               70.390                74.528
      17               72.115                71.391
      18               73.659                63.935
      19               75.134                61.052
      20               76.469                55.260
      21               77.734                52.362
      22               78.881                47.471
```

23	79.948	44.175
24	80.951	41.534
25	81.894	39.031
26	82.772	36.350
27	83.565	32.812
28	84.323	31.399
29	85.021	28.878
30	85.686	27.557
31	86.276	24.413
32	86.858	24.080
33	87.424	23.429
34	87.967	22.488
35	88.410	18.343
36	88.841	17.835
37	89.272	17.824
38	89.701	17.759
39	90.112	17.026
40	90.519	16.840
41	90.925	16.837
42	91.330	16.762
43	91.676	14.311
44	91.997	13.279
45	92.317	13.259
46	92.638	13.271
47	92.945	12.732
48	93.242	12.290
49	93.538	12.265
50	93.835	12.278
51	94.117	11.666
52	94.373	10.605
53	94.629	10.603
54	94.884	10.566
55	95.122	9.829
56	95.342	9.121
57	95.561	9.060
58	95.780	9.067
59	95.995	8.898
60	96.184	7.849
61	96.370	7.677
62	96.555	7.676
63	96.741	7.705
64	96.940	8.207
65	97.142	8.377
66	97.344	8.367
67	97.546	8.339
68	97.674	5.300
69	97.757	3.444
70	97.841	3.482
71	97.925	3.462
72	98.009	3.482
73	98.092	3.444
74	98.176	3.482
75	98.260	3.462
76	98.344	3.482
77	98.427	3.444
78	98.511	3.481
79	98.595	3.463
80	98.678	3.462
81	98.762	3.462
82	98.846	3.482
83	98.930	3.462
84	99.010	3.312
85	99.056	1.930
86	99.096	1.627
87	99.135	1.646
88	99.175	1.627
89	99.214	1.627
90	99.253	1.627
91	99.293	1.646
92	99.337	1.836
93	99.377	1.646
94	99.417	1.646
95	99.457	1.646
96	99.496	1.646
97	99.536	1.646
98	99.576	1.646
99	99.616	1.646
100	99.656	1.646
101	99.695	1.646
102	99.735	1.646
103	99.775	1.646
104	99.815	1.646
105	99.854	1.646
106	99.894	1.646
107	99.934	1.646
108	99.974	1.646
109	100.000	1.091

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.28
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.28

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 73.0633
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 186.9927

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 75.0 150.0 225.0 300.0
16.083	83.3582	184.49	
16.167	84.6288	184.49	
16.250	86.0018	199.35	
16.333	87.3747	199.35	
16.417	88.8507	214.31	
16.500	90.3267	214.31	
16.583	91.9583	236.90	
16.667	93.5898	236.90	
16.750	95.3784	259.71	
16.833	97.1671	259.71	
16.917	98.9995	266.07	
17.000	100.8319	266.07	
17.083	102.6143	258.79	
17.167	104.3966	258.79	
17.250	106.1571	255.63	
17.333	107.9177	255.63	
17.417	109.6298	248.60	
17.500	111.3420	248.60	
17.583	112.8800	223.32	
17.667	114.4180	223.32	
17.750	115.8527	208.32	
17.833	117.2873	208.32	
17.917	118.6189	193.34	
18.000	119.9504	193.34	
18.083	121.2010	181.59	
18.167	122.4516	181.59	
18.250	123.6155	168.99	
18.333	124.7793	168.99	
18.417	125.8773	159.43	
18.500	126.9754	159.43	
18.583	128.0145	150.87	
18.667	129.0535	150.87	
18.750	130.0519	144.97	
18.833	131.0503	144.97	
18.917	132.0069	138.89	
19.000	132.9634	138.89	
19.083	133.8869	134.10	
19.167	134.8105	134.10	
19.250	135.7002	129.18	
19.333	136.5899	129.18	
19.417	137.4515	125.11	
19.500	138.3132	125.11	
19.583	139.1452	120.81	
19.667	139.9772	120.81	
19.750	140.7831	117.01	
19.833	141.5889	117.01	
19.917	142.3706	113.50	
20.000	143.1522	113.50	

FLOW PROCESS FROM NODE 3.07 TO NODE 3.10 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 20.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3470.00
DOWNSTREAM ELEVATION = 3320.00
CHANNEL LENGTH(FT) = 8100.00 MANNING'S FACTOR = .040
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 266.07
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 191.48
CHANNEL NORMAL VELOCITY FOR Q = 191.48 CFS = 5.67 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .769

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .530

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	93.6	87.4	87.4
14.167	93.6	88.2	88.2

14.250	98.4	89.3	89.3
14.333	98.4	90.4	90.4
14.417	104.4	92.1	92.1
14.500	104.4	93.7	93.7
14.583	112.2	96.2	96.2
14.667	112.2	98.4	98.4
14.750	122.2	101.6	101.6
14.833	122.2	104.5	104.5
14.917	132.8	108.6	108.6
15.000	132.8	112.3	112.3
15.083	142.5	117.5	117.5
15.167	142.5	121.9	121.9
15.250	152.1	127.7	127.7
15.333	152.1	132.1	132.1
15.417	160.2	137.6	137.6
15.500	160.2	142.0	142.0
15.583	164.7	147.4	147.4
15.667	164.7	151.3	151.3
15.750	168.1	156.0	156.0
15.833	168.1	159.0	159.0
15.917	171.6	162.1	162.1
16.000	171.6	164.1	164.1
16.083	184.5	166.2	166.2
16.167	184.5	167.8	167.8
16.250	199.4	169.8	169.8
16.333	199.4	173.1	173.1
16.417	214.3	179.1	179.1
16.500	214.3	184.6	184.6
16.583	236.9	192.4	192.4
16.667	236.9	198.8	198.8
16.750	259.7	207.0	207.0
16.833	259.7	214.9	214.9
16.917	266.1	226.6	226.6
17.000	266.1	236.1	236.1
17.083	258.8	248.6	248.6
17.167	258.8	255.6	255.6
17.250	255.6	261.2	261.2
17.333	255.6	262.5	262.5
17.417	248.6	260.5	260.5
17.500	248.6	259.0	259.0
17.583	223.3	257.2	257.2
17.667	223.3	255.1	255.1
17.750	208.3	251.7	251.7
17.833	208.3	245.5	245.5
17.917	193.3	233.7	233.7
18.000	193.3	225.5	225.5
18.083	181.6	216.4	216.4
18.167	181.6	209.4	209.4
18.250	169.0	200.9	200.9
18.333	169.0	194.8	194.8
18.417	159.4	187.8	187.8
18.500	159.4	182.3	182.3
18.583	150.9	175.2	175.2
18.667	150.9	170.2	170.2
18.750	145.0	164.5	164.5
18.833	145.0	160.3	160.3
18.917	138.9	155.3	155.3
19.000	138.9	151.9	151.9

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================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =     186.993 AF
    OUTFLOW VOLUME =     186.993 AF
    LOSS    VOLUME =        .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                 HYDROGRAPH AT NODE 3.10 ROUTED TO 3.12                 *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD310.INP
  TIME/DATE OF STUDY:  9:40   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     3.00 TO NODE     3.10 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =     955.500 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.790 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
              "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .266
        LOW LOSS FRACTION =   .312
        *HYDROGRAPH MODEL #3 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  13.966


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION
--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
       1                1.357                52.273
       2                4.679               127.952
       3                9.629               190.673
       4               17.432               300.570
       5               26.938               366.156
       6               35.811               341.773
       7               44.202               323.197
       8               51.875               295.562
       9               57.050               199.340
      10               61.056               154.315
      11               64.443               130.441
      12               67.181               105.464
      13               69.609                93.540
      14               71.706                80.745
      15               73.675                75.841
      16               75.417                67.115
      17               77.043                62.614
      18               78.515                56.718
      19               79.853                51.518
      20               81.091                47.701
      21               82.217                43.393
      22               83.283                41.046
```

23	84.217	35.965
24	85.103	34.150
25	85.920	31.453
26	86.671	28.932
27	87.344	25.928
28	88.001	25.312
29	88.639	24.565
30	89.160	20.082
31	89.649	18.832
32	90.138	18.827
33	90.618	18.501
34	91.080	17.783
35	91.541	17.751
36	92.000	17.671
37	92.390	15.039
38	92.751	13.885
39	93.111	13.867
40	93.465	13.657
41	93.797	12.774
42	94.126	12.691
43	94.455	12.682
44	94.759	11.708
45	95.041	10.862
46	95.324	10.866
47	95.591	10.305
48	95.832	9.272
49	96.068	9.085
50	96.304	9.090
51	96.527	8.596
52	96.729	7.801
53	96.932	7.808
54	97.135	7.821
55	97.350	8.293
56	97.570	8.441
57	97.789	8.448
58	97.974	7.144
59	98.062	3.387
60	98.146	3.226
61	98.230	3.232
62	98.314	3.232
63	98.397	3.219
64	98.481	3.232
65	98.565	3.219
66	98.649	3.245
67	98.733	3.219
68	98.816	3.219
69	98.900	3.232
70	98.984	3.232
71	99.068	3.232
72	99.148	3.090
73	99.196	1.823
74	99.235	1.513
75	99.274	1.525
76	99.313	1.500
77	99.353	1.538
78	99.393	1.513
79	99.437	1.719
80	99.476	1.513
81	99.516	1.513
82	99.555	1.513
83	99.594	1.513
84	99.634	1.513
85	99.673	1.513
86	99.712	1.513
87	99.751	1.513
88	99.791	1.513
89	99.830	1.513
90	99.869	1.513
91	99.908	1.513
92	99.948	1.513
93	99.987	1.513
94	100.000	.502

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.38
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.18

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 109.9205
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 253.0452

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	100.0	200.0	300.0	400.0
16.083	105.0823	234.01			V Q		
16.167	106.6940	234.01			V Q		
16.250	108.3056	234.01			V Q		
16.333	110.0608	254.84			V Q		
16.417	111.8159	254.84			V Q		
16.500	113.5710	254.84			V Q		
16.583	115.4739	276.30			V Q		
16.667	117.3768	276.30			V Q		
16.750	119.2797	276.30			V Q		
16.833	121.3888	306.24			V Q		
16.917	123.4979	306.24			V Q		
17.000	125.6069	306.24			V Q		
17.083	127.8177	321.00			V Q		
17.167	130.0284	321.00			V Q		
17.250	132.2391	321.00			V Q		
17.333	134.4191	316.53			V Q		
17.417	136.5990	316.53			V Q		
17.500	138.7790	316.53			V Q		
17.583	140.9171	310.46			V Q		
17.667	143.0552	310.46			V Q		
17.750	145.1934	310.46			V Q		
17.833	147.2127	293.21			V Q		
17.917	149.2321	293.21			V Q		
18.000	151.2514	293.21			V Q		
18.083	153.0431	260.15			V Q		
18.167	154.8348	260.15			V Q		
18.250	156.6265	260.15			V Q		
18.333	158.2649	237.89			Q V		
18.417	159.9033	237.89			Q V		
18.500	161.5417	237.89			Q V		
18.583	163.0508	219.12			Q V		
18.667	164.5598	219.12			Q V		
18.750	166.0689	219.12			Q V		
18.833	167.4546	201.21			Q V		
18.917	168.8403	201.21			Q V		
19.000	170.2260	201.21			Q V		

FLOW PROCESS FROM NODE 3.10 TO NODE 3.12 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 30.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3320.00
DOWNSTREAM ELEVATION = 3175.00
CHANNEL LENGTH(FT) = 8400.00 MANNING'S FACTOR = .035
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 321.00
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 235.42
CHANNEL NORMAL VELOCITY FOR Q = 235.42 CFS = 5.85 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .775

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .535

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	121.2	112.6	112.6
14.167	121.2	114.3	114.3
14.250	121.2	115.0	115.0
14.333	129.6	116.2	116.2
14.417	129.6	118.9	118.9
14.500	129.6	120.1	120.1
14.583	140.4	122.0	122.0
14.667	140.4	126.1	126.1
14.750	140.4	128.0	128.0
14.833	155.3	130.5	130.5
14.917	155.3	135.8	135.8
15.000	155.3	138.3	138.3
15.083	172.7	141.8	141.8
15.167	172.7	149.0	149.0

15.250	172.7	152.4	152.4
15.333	188.3	156.6	156.6
15.417	188.3	165.2	165.2
15.500	188.3	169.2	169.2
15.583	201.3	173.5	173.5
15.667	201.3	181.4	181.4
15.750	201.3	185.1	185.1
15.833	214.5	188.9	188.9
15.917	214.5	195.5	195.5
16.000	214.5	198.6	198.6
16.083	234.0	202.1	202.1
16.167	234.0	208.7	208.7
16.250	234.0	211.8	211.8
16.333	254.8	216.3	216.3
16.417	254.8	225.8	225.8
16.500	254.8	230.2	230.2
16.583	276.3	235.5	235.5
16.667	276.3	245.8	245.8
16.750	276.3	250.7	250.7
16.833	306.2	256.2	256.2
16.917	306.2	267.0	267.0
17.000	306.2	272.0	272.0
17.083	321.0	278.9	278.9
17.167	321.0	293.5	293.5
17.250	321.0	300.3	300.3
17.333	316.5	305.8	305.8
17.417	316.5	313.9	313.9
17.500	316.5	317.7	317.7
17.583	310.5	318.8	318.8
17.667	310.5	317.6	317.6
17.750	310.5	317.0	317.0
17.833	293.2	315.8	315.8
17.917	293.2	312.9	312.9
18.000	293.2	311.6	311.6
18.083	260.2	308.3	308.3
18.167	260.2	300.2	300.2
18.250	260.2	296.5	296.5
18.333	237.9	289.6	289.6
18.417	237.9	273.8	273.8
18.500	237.9	266.5	266.5
18.583	219.1	259.6	259.6
18.667	219.1	248.0	248.0
18.750	219.1	242.6	242.6
18.833	201.2	237.2	237.2
18.917	201.2	227.5	227.5
19.000	201.2	223.0	223.0

==========

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 253.045 AF
OUTFLOW VOLUME = 253.045 AF
LOSS VOLUME = .000 AF

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END OF FLOOD ROUTING ANALYSIS

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                      Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 3.12 ROUTED TO 4.13                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD312.INP
  TIME/DATE OF STUDY:  9:52   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     3.00 TO NODE     3.12 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    1487.200 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    2.189 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .276
        LOW LOSS FRACTION =  .329
        *HYDROGRAPH MODEL #4 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  15.228


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
       1                1.480                66.538
       2                5.272               170.500
       3               11.146               264.151
       4               20.357               414.148
       5               30.706               465.344
       6               39.885               412.722
       7               49.068               412.932
       8               55.498               289.090
       9               60.204               211.606
      10               63.992               170.334
      11               67.049               137.453
      12               69.691               118.817
      13               71.969               102.402
      14               74.066                94.302
      15               75.944                84.455
      16               77.632                75.916
      17               79.196                70.288
      18               80.575                62.041
      19               81.858                57.682
      20               83.038                53.035
      21               84.081                46.900
      22               85.053                43.715
```

23	85.946	40.139
24	86.753	36.321
25	87.485	32.917
26	88.197	32.012
27	88.857	29.678
28	89.397	24.244
29	89.930	23.966
30	90.459	23.824
31	90.967	22.809
32	91.469	22.595
33	91.970	22.529
34	92.399	19.294
35	92.792	17.671
36	93.185	17.668
37	93.565	17.088
38	93.925	16.180
39	94.285	16.165
40	94.635	15.746
41	94.947	14.024
42	95.254	13.838
43	95.550	13.266
44	95.815	11.920
45	96.072	11.568
46	96.329	11.581
47	96.567	10.693
48	96.788	9.925
49	97.009	9.925
50	97.235	10.160
51	97.473	10.720
52	97.712	10.749
53	97.939	10.215
54	98.048	4.896
55	98.139	4.104
56	98.231	4.104
57	98.322	4.118
58	98.413	4.097
59	98.505	4.111
60	98.596	4.111
61	98.688	4.111
62	98.779	4.097
63	98.871	4.125
64	98.962	4.097
65	99.053	4.111
66	99.142	3.986
67	99.196	2.436
68	99.238	1.910
69	99.282	1.938
70	99.325	1.938
71	99.368	1.938
72	99.413	2.021
73	99.456	1.938
74	99.499	1.938
75	99.542	1.938
76	99.585	1.938
77	99.628	1.938
78	99.671	1.938
79	99.714	1.938
80	99.757	1.938
81	99.801	1.938
82	99.844	1.938
83	99.887	1.938
84	99.930	1.938
85	99.973	1.938
86	100.000	1.219

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.47
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.09

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 182.1576
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 382.7905

```
==============================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==============================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

------------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      125.0     250.0     375.0     500.0
------------------------------------------------------------------------------
  16.083    148.3425    327.79  .         .    V    .     Q   .         .
  16.167    150.6000    327.79  .         .    V    .     Q   .         .
  16.250    152.8575    327.79  .         .    V    .     Q   .         .
  16.333    155.1150    327.79  .         .     V   .     Q   .         .
  16.417    157.6072    361.86  .         .     V   .       Q .         .
  16.500    160.0993    361.86  .         .     V   .       Q .         .
  16.583    162.5915    361.86  .         .     V   .       Q .         .
  16.667    165.0837    361.86  .         .      V  .       Q .         .
  16.750    167.8017    394.65  .         .      V  .         .Q        .
  16.833    170.5196    394.65  .         .      V  .         .Q        .
  16.917    173.2376    394.65  .         .       V .         .Q        .
  17.000    175.9556    394.65  .         .       V .         .Q        .
  17.083    178.9350    432.60  .         .       V .         .   Q     .
  17.167    181.9143    432.60  .         .        V.         .   Q     .
  17.250    184.8937    432.60  .         .        V.         .   Q     .
  17.333    187.8730    432.60  .         .        V.         .   Q     .
  17.417    190.9016    439.75  .         .        V.         .    Q    .
  17.500    193.9302    439.75  .         .         V         .    Q    .
  17.583    196.9587    439.75  .         .         V         .    Q    .
  17.667    199.9873    439.75  .         .         V         .    Q    .
  17.750    202.9331    427.73  .         .         .V        .   Q     .
  17.833    205.8789    427.73  .         .         .V        .   Q     .
  17.917    208.8247    427.73  .         .         .V        .   Q     .
  18.000    211.7706    427.73  .         .         . V       .   Q     .
  18.083    214.5896    409.32  .         .         . V       . Q       .
  18.167    217.4086    409.32  .         .         . V       . Q       .
  18.250    220.2276    409.32  .         .         .  V      . Q       .
  18.333    223.0467    409.32  .         .         .  V      . Q       .
  18.417    225.5597    364.89  .         .         .  V     Q.         .
  18.500    228.0728    364.89  .         .         .  V     Q.         .
  18.583    230.5858    364.89  .         .         .   V    Q.         .
  18.667    233.0989    364.89  .         .         .   V    Q.         .
  18.750    235.3624    328.67  .         .         .   V Q   .         .
  18.833    237.6260    328.67  .         .         .   V Q   .         .
  18.917    239.8895    328.67  .         .         .    VQ   .         .
  19.000    242.1531    328.67  .         .         .    VQ   .         .

******************************************************************************
 FLOW PROCESS FROM NODE     3.12 TO NODE     4.13 IS CODE =  52
------------------------------------------------------------------------------
 >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==============================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =    35.00      CHANNEL Z =  3.00
          UPSTREAM ELEVATION =     3175.00
          DOWNSTREAM ELEVATION =     3095.00
          CHANNEL LENGTH(FT) =     6000.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =      .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =    439.75
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =    328.40
          CHANNEL NORMAL VELOCITY FOR Q =    328.40 CFS =    5.79 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .773

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .579


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW      (STREAM 1)
         (HRS)       (CFS)       (CFS)        (CFS)
         14.083        175.4       165.2        165.2
         14.167        175.4       165.7        165.7
         14.250        175.4       167.7        167.7
         14.333        175.4       172.1        172.1
         14.417        190.3       174.0        174.0
         14.500        190.3       174.8        174.8
         14.583        190.3       178.0        178.0
         14.667        190.3       185.1        185.1
         14.750        210.4       188.1        188.1
         14.833        210.4       189.4        189.4
         14.917        210.4       193.8        193.8
         15.000        210.4       203.4        203.4
         15.083        238.1       207.5        207.5
         15.167        238.1       209.2        209.2
```

15.250	238.1	215.2	215.2
15.333	238.1	228.4	228.4
15.417	265.5	234.0	234.0
15.500	265.5	236.4	236.4
15.583	265.5	242.6	242.6
15.667	265.5	255.9	255.9
15.750	290.5	261.4	261.4
15.833	290.5	263.8	263.8
15.917	290.5	269.6	269.6
16.000	290.5	281.7	281.7
16.083	327.8	286.8	286.8
16.167	327.8	289.0	289.0
16.250	327.8	297.0	297.0
16.333	327.8	314.8	314.8
16.417	361.9	322.3	322.3
16.500	361.9	325.5	325.5
16.583	361.9	333.3	333.3
16.667	361.9	349.8	349.8
16.750	394.7	356.8	356.8
16.833	394.7	359.7	359.7
16.917	394.7	367.2	367.2
17.000	394.7	383.1	383.1
17.083	432.6	389.8	389.8
17.167	432.6	392.6	392.6
17.250	432.6	401.0	401.0
17.333	432.6	419.3	419.3
17.417	439.7	427.0	427.0
17.500	439.7	430.2	430.2
17.583	439.7	433.0	433.0
17.667	439.7	436.9	436.9
17.750	427.7	438.5	438.5
17.833	427.7	439.2	439.2
17.917	427.7	437.2	437.2
18.000	427.7	431.7	431.7
18.083	409.3	429.4	429.4
18.167	409.3	428.4	428.4
18.250	409.3	424.5	424.5
18.333	409.3	415.7	415.7
18.417	364.9	412.0	412.0
18.500	364.9	410.5	410.5
18.583	364.9	401.3	401.3
18.667	364.9	380.2	380.2
18.750	328.7	371.4	371.4
18.833	328.7	367.6	367.6
18.917	328.7	359.1	359.1
19.000	328.7	341.5	341.5

```
================================================================================
 PROCESS SUMMARY OF STORAGE:
   INFLOW  VOLUME =     382.791 AF
   OUTFLOW VOLUME =     382.790 AF
   LOSS    VOLUME =        .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
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**************************************************************************

          F L O O D   R O U T I N G   A N A L Y S I S
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                      Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 4.09 ROUTED TO 4.10                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD409.INP
  TIME/DATE OF STUDY:  9:57   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     4.00 TO NODE     4.09 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =     672.000 ACRES
         BASEFLOW =    .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    1.700 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .700
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .302
         LOW LOSS FRACTION =  .349
         *HYDROGRAPH MODEL #3 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  14.706


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                    UNIT HYDROGRAPH DETERMINATION
--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1               1.463                39.639
          2               5.159               100.109
          3              10.733               151.009
          4              19.693               242.728
          5              29.928               277.252
          6              38.777               239.723
          7              47.332               231.751
          8              53.819               175.732
          9              58.448               125.417
         10              62.123                99.551
         11              65.244                84.539
         12              67.854                70.712
         13              70.154                62.321
         14              72.262                57.084
         15              74.136                50.774
         16              75.889                47.503
         17              77.457                42.467
         18              78.891                38.840
         19              80.196                35.350
         20              81.392                32.407
         21              82.518                30.491
         22              83.506                26.772
```

23	84.432	25.083
24	85.286	23.130
25	86.049	20.690
26	86.767	19.435
27	87.464	18.890
28	88.106	17.378
29	88.638	14.429
30	89.168	14.343
31	89.695	14.276
32	90.200	13.691
33	90.700	13.542
34	91.200	13.548
35	91.646	12.075
36	92.041	10.716
37	92.437	10.716
38	92.827	10.575
39	93.196	9.981
40	93.562	9.927
41	93.927	9.890
42	94.259	8.999
43	94.576	8.568
44	94.876	8.135
45	95.165	7.832
46	95.435	7.307
47	95.704	7.291
48	95.970	7.203
49	96.205	6.374
50	96.433	6.173
51	96.661	6.178
52	96.899	6.450
53	97.148	6.732
54	97.396	6.732
55	97.620	6.077
56	97.733	3.053
57	97.836	2.790
58	97.939	2.785
59	98.042	2.791
60	98.145	2.790
61	98.248	2.791
62	98.351	2.791
63	98.454	2.780
64	98.557	2.791
65	98.660	2.790
66	98.763	2.791
67	98.865	2.780
68	98.969	2.801
69	99.044	2.045
70	99.093	1.310
71	99.141	1.319
72	99.190	1.320
73	99.238	1.310
74	99.287	1.310
75	99.341	1.471
76	99.389	1.310
77	99.438	1.310
78	99.486	1.310
79	99.534	1.310
80	99.583	1.310
81	99.631	1.310
82	99.679	1.310
83	99.728	1.310
84	99.776	1.310
85	99.824	1.310
86	99.873	1.310
87	99.921	1.310
88	99.969	1.310
89	100.000	.827

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.55
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.01

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 86.5369
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 168.7404

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	75.0	150.0	225.0	300.0
16.083	70.7733	157.81			V .Q		
16.167	71.8601	157.81			V .Q		
16.250	72.9469	157.81			V .Q		
16.333	74.1384	173.00			V . Q		
16.417	75.3299	173.00			V . Q		
16.500	76.5214	173.00			V . Q		
16.583	77.8272	189.61			V . Q		
16.667	79.1331	189.61			V . Q		
16.750	80.4390	189.61			V. Q		
16.833	81.9020	212.43			V. Q		
16.917	83.3651	212.43			V. Q		
17.000	84.8281	212.43			V Q		
17.083	86.3436	220.05			V Q		
17.167	87.8591	220.05			V Q		
17.250	89.3745	220.05			V Q		
17.333	90.8432	213.26			.V Q		
17.417	92.3120	213.26			.V Q		
17.500	93.7807	213.26			. V Q		
17.583	95.2113	207.73			. V Q		
17.667	96.6420	207.73			. V Q		
17.750	98.0726	207.73			. V Q		
17.833	99.3677	188.05			. V Q		
17.917	100.6628	188.05			. V Q		
18.000	101.9579	188.05			. VQ		
18.083	103.1173	168.35			. Q V		
18.167	104.2767	168.35			. Q V		
18.250	105.4361	168.35			. Q V		
18.333	106.4971	154.05			Q V		
18.417	107.5581	154.05			Q V		
18.500	108.6191	154.05			Q V		
18.583	109.5943	141.59		Q .	V		
18.667	110.5694	141.59		Q .	V		
18.750	111.5446	141.59		Q .	V		
18.833	112.4487	131.28		Q .	V		
18.917	113.3529	131.28		Q .	V		
19.000	114.2570	131.28		Q .	V		

****
FLOW PROCESS FROM NODE 4.09 TO NODE 4.10 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 25.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3400.00
DOWNSTREAM ELEVATION = 3340.00
CHANNEL LENGTH(FT) = 3800.00 MANNING'S FACTOR = .040
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 220.05
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 160.02
CHANNEL NORMAL VELOCITY FOR Q = 160.02 CFS = 4.74 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .736

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .592

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	81.4	77.2	77.2
14.167	81.4	77.5	77.5
14.250	81.4	79.8	79.8
14.333	87.4	80.8	80.8
14.417	87.4	81.3	81.3
14.500	87.4	84.9	84.9
14.583	95.2	86.4	86.4
14.667	95.2	87.1	87.1
14.750	95.2	91.9	91.9
14.833	106.1	93.9	93.9
14.917	106.1	94.9	94.9
15.000	106.1	101.5	101.5
15.083	118.4	104.3	104.3
15.167	118.4	105.6	105.6

15.250	118.4	113.2	113.2
15.333	128.8	116.3	116.3
15.417	128.8	117.8	117.8
15.500	128.8	124.3	124.3
15.583	137.4	127.0	127.0
15.667	137.4	128.2	128.2
15.750	137.4	133.6	133.6
15.833	144.9	135.9	135.9
15.917	144.9	136.9	136.9
16.000	144.9	141.6	141.6
16.083	157.8	143.6	143.6
16.167	157.8	144.6	144.6
16.250	157.8	152.4	152.4
16.333	173.0	155.6	155.6
16.417	173.0	157.2	157.2
16.500	173.0	166.6	166.6
16.583	189.6	170.4	170.4
16.667	189.6	172.3	172.3
16.750	189.6	182.5	182.5
16.833	212.4	186.7	186.7
16.917	212.4	188.9	188.9
17.000	212.4	202.8	202.8
17.083	220.0	208.5	208.5
17.167	220.0	211.0	211.0
17.250	220.0	216.3	216.3
17.333	213.3	218.5	218.5
17.417	213.3	219.3	219.3
17.500	213.3	215.7	215.7
17.583	207.7	214.3	214.3
17.667	207.7	213.6	213.6
17.750	207.7	210.1	210.1
17.833	188.0	208.7	208.7
17.917	188.0	207.7	207.7
18.000	188.0	196.1	196.1
18.083	168.3	191.3	191.3
18.167	168.3	189.0	189.0
18.250	168.3	176.8	176.8
18.333	154.1	171.8	171.8
18.417	154.1	169.5	169.5
18.500	154.1	160.4	160.4
18.583	141.6	156.6	156.6
18.667	141.6	154.9	154.9
18.750	141.6	147.0	147.0
18.833	131.3	143.8	143.8
18.917	131.3	142.3	142.3
19.000	131.3	135.8	135.8

```
================================================================================
 PROCESS SUMMARY OF STORAGE:
   INFLOW  VOLUME =     168.741 AF
   OUTFLOW VOLUME =     168.740 AF
   LOSS    VOLUME =        .000 AF
================================================================================

 END OF FLOOD ROUTING ANALYSIS
```

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

          F L O O D   R O U T I N G   A N A L Y S I S
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                      Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 4.10 ROUTED TO 4.12                  *
*                                                                        *
 ************************************************************************

  FILE NAME: HYD410.INP
  TIME/DATE OF STUDY: 10: 3   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     4.00 TO NODE     4.10 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    1614.700 ACRES
        BASEFLOW =    .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.923 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .267
        LOW LOSS FRACTION =  .309
        *HYDROGRAPH MODEL #3 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  13.001


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.263                82.226
        2                4.249               194.356
        3                8.602               283.366
        4               15.275               434.343
        5               23.940               564.020
        6               32.611               564.412
        7               40.314               501.415
        8               48.327               521.618
        9               54.163               379.830
       10               58.546               285.343
       11               62.027               226.550
       12               65.059               197.405
       13               67.524               160.418
       14               69.761               145.614
       15               71.700               126.209
       16               73.545               120.091
       17               75.173               106.005
       18               76.723               100.902
       19               78.105                89.915
       20               79.413                85.135
       21               80.578                75.842
       22               81.685                72.085
```

23	82.701	66.116
24	83.645	61.454
25	84.496	55.371
26	85.299	52.298
27	86.055	49.223
28	86.737	44.387
29	87.364	40.769
30	87.975	39.806
31	88.574	39.008
32	89.073	32.466
33	89.528	29.614
34	89.983	29.623
35	90.436	29.492
36	90.870	28.240
37	91.299	27.930
38	91.728	27.925
39	92.143	27.011
40	92.486	22.347
41	92.820	21.715
42	93.154	21.710
43	93.481	21.286
44	93.787	19.950
45	94.092	19.848
46	94.397	19.866
47	94.686	18.817
48	94.948	17.029
49	95.208	16.966
50	95.469	16.983
51	95.716	16.019
52	95.935	14.298
53	96.155	14.310
54	96.374	14.270
55	96.574	12.990
56	96.762	12.263
57	96.951	12.275
58	97.140	12.310
59	97.340	13.049
60	97.544	13.272
61	97.748	13.285
62	97.942	12.638
63	98.035	6.038
64	98.113	5.093
65	98.191	5.058
66	98.269	5.093
67	98.347	5.070
68	98.425	5.069
69	98.503	5.093
70	98.581	5.069
71	98.660	5.093
72	98.737	5.070
73	98.815	5.069
74	98.893	5.069
75	98.971	5.093
76	99.049	5.069
77	99.127	5.069
78	99.182	3.544
79	99.218	2.371
80	99.254	2.370
81	99.291	2.394
82	99.328	2.394
83	99.365	2.394
84	99.402	2.417
85	99.439	2.394
86	99.476	2.394
87	99.512	2.394
88	99.549	2.394
89	99.586	2.394
90	99.623	2.394
91	99.659	2.394
92	99.696	2.394
93	99.733	2.394
94	99.770	2.394
95	99.807	2.394
96	99.843	2.394
97	99.880	2.394
98	99.917	2.394
99	99.954	2.394
100	99.990	2.394
101	100.000	.621

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.37
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.19

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 184.0882
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 429.2867

```
==========================================================================

                    24-HOUR   STORM
                 RUNOFF   HYDROGRAPH

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      150.0     300.0     450.0     600.0
--------------------------------------------------------------------------
  16.083    173.9497    386.40  .         .     V   .    Q    .         .
  16.167    176.6108    386.40  .         .     V   .    Q    .         .
  16.250    179.2720    386.40  .         .     V   .    Q    .         .
  16.333    182.1614    419.54  .         .     V   .      Q  .         .
  16.417    185.0508    419.54  .         .      V  .      Q  .         .
  16.500    187.9402    419.54  .         .      V  .      Q  .         .
  16.583    191.0422    450.41  .         .      V  .         Q         .
  16.667    194.1442    450.41  .         .       V .         Q         .
  16.750    197.2462    450.41  .         .       V .         Q         .
  16.833    200.6604    495.73  .         .       V .         .  Q      .
  16.917    204.0745    495.73  .         .        V.         .  Q      .
  17.000    207.4886    495.73  .         .        V.         .  Q      .
  17.083    211.1098    525.80  .         .        V.         .    Q    .
  17.167    214.7310    525.80  .         .         V         .    Q    .
  17.250    218.3522    525.80  .         .         V         .    Q    .
  17.333    221.9650    524.57  .         .         V         .   Q     .
  17.417    225.5777    524.57  .         .          V        .   Q     .
  17.500    229.1904    524.57  .         .          V        .   Q     .
  17.583    232.7144    511.68  .         .         .V        .   Q     .
  17.667    236.2384    511.68  .         .         . V       .   Q     .
  17.750    239.7624    511.68  .         .         . V       .   Q     .
  17.833    243.2133    501.07  .         .         . V       .  Q      .
  17.917    246.6642    501.07  .         .         . V       .  Q      .
  18.000    250.1151    501.07  .         .         .  V      .  Q      .
  18.083    253.2215    451.06  .         .         .  V      Q         .
  18.167    256.3280    451.06  .         .         .  V      Q         .
  18.250    259.4345    451.06  .         .         .   V     Q         .
  18.333    262.2632    410.72  .         .         .   V  Q  .         .
  18.417    265.0919    410.72  .         .         .   V  Q  .         .
  18.500    267.9205    410.72  .         .         .   V  Q  .         .
  18.583    270.5254    378.22  .         .         .    Q    .         .
  18.667    273.1302    378.22  .         .         .    Q    .         .
  18.750    275.7350    378.22  .         .         .    Q    .         .
  18.833    278.1450    349.93  .         .         .  Q V    .         .
  18.917    280.5550    349.93  .         .         .  Q  V   .         .
  19.000    282.9649    349.93  .         .         .  Q  V   .         .

**************************************************************************
 FLOW PROCESS FROM NODE     4.10 TO NODE     4.12 IS CODE =  52
--------------------------------------------------------------------------
 >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   30.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3340.00
          DOWNSTREAM ELEVATION =    3185.00
          CHANNEL LENGTH(FT) =    8400.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   525.80
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   387.98
          CHANNEL NORMAL VELOCITY FOR Q =   387.98 CFS =   7.07 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .806

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .589


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW      (STREAM 1)
         (HRS)       (CFS)       (CFS)        (CFS)
         14.083        201.5       189.9        189.9
         14.167        201.5       191.6        191.6
         14.250        201.5       192.3        192.3
         14.333        214.8       196.7        196.7
         14.417        214.8       199.6        199.6
         14.500        214.8       200.7        200.7
         14.583        231.7       207.5        207.5
         14.667        231.7       211.8        211.8
         14.750        231.7       213.5        213.5
         14.833        254.2       222.3        222.3
         14.917        254.2       227.8        227.8
         15.000        254.2       230.1        230.1
         15.083        281.8       241.8        241.8
         15.167        281.8       249.1        249.1
```

15.250	281.8	252.1	252.1
15.333	307.8	266.5	266.5
15.417	307.8	275.5	275.5
15.500	307.8	279.3	279.3
15.583	328.6	293.1	293.1
15.667	328.6	301.8	301.8
15.750	328.6	305.3	305.3
15.833	352.2	316.7	316.7
15.917	352.2	323.7	323.7
16.000	352.2	326.6	326.6
16.083	386.4	339.0	339.0
16.167	386.4	346.8	346.8
16.250	386.4	350.0	350.0
16.333	419.5	367.6	367.6
16.417	419.5	378.7	378.7
16.500	419.5	383.2	383.2
16.583	450.4	400.9	400.9
16.667	450.4	411.9	411.9
16.750	450.4	416.4	416.4
16.833	495.7	432.9	432.9
16.917	495.7	443.2	443.2
17.000	495.7	447.5	447.5
17.083	525.8	470.8	470.8
17.167	525.8	485.5	485.5
17.250	525.8	491.5	491.5
17.333	524.6	508.3	508.3
17.417	524.6	518.6	518.6
17.500	524.6	522.9	522.9
17.583	511.7	524.0	524.0
17.667	511.7	524.3	524.3
17.750	511.7	524.5	524.5
17.833	501.1	518.4	518.4
17.917	501.1	514.4	514.4
18.000	501.1	512.8	512.8
18.083	451.1	507.1	507.1
18.167	451.1	503.5	503.5
18.250	451.1	502.1	502.1
18.333	410.7	477.7	477.7
18.417	410.7	462.0	462.0
18.500	410.7	455.6	455.6
18.583	378.2	433.7	433.7
18.667	378.2	420.2	420.2
18.750	378.2	414.6	414.6
18.833	349.9	396.8	396.8
18.917	349.9	385.9	385.9
19.000	349.9	381.4	381.4

==========

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 429.287 AF
OUTFLOW VOLUME = 429.287 AF
LOSS VOLUME = .000 AF

==========

END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                 HYDROGRAPH AT NODE 4.12 ROUTED TO 4.13                 *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD412.INP
  TIME/DATE OF STUDY: 10: 6   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     4.00 TO NODE     4.12 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    2467.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    2.253 HOURS
         VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
         VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .274
         LOW LOSS FRACTION =  .322
         *HYDROGRAPH MODEL #4 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  14.795


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
         1                1.438              107.227
         2                5.065              270.555
         3               10.605              413.256
         4               19.342              651.648
         5               29.432              752.586
         6               38.485              675.225
         7               47.512              673.343
         8               54.320              507.826
         9               59.187              362.949
        10               63.018              285.802
        11               66.212              238.241
        12               68.873              198.444
        13               71.178              171.938
        14               73.302              158.441
        15               75.176              139.742
        16               76.920              130.096
        17               78.484              116.653
        18               79.900              105.629
        19               81.206               97.383
        20               82.388               88.208
        21               83.493               82.436
        22               84.468               72.710
```

23	85.379	67.931
24	86.231	63.576
25	86.976	55.569
26	87.684	52.765
27	88.372	51.327
28	88.980	45.357
29	89.498	38.633
30	90.016	38.623
31	90.529	38.251
32	91.019	36.604
33	91.508	36.414
34	91.994	36.250
35	92.407	30.841
36	92.789	28.458
37	93.170	28.471
38	93.541	27.618
39	93.890	26.070
40	94.239	26.044
41	94.583	25.652
42	94.890	22.859
43	95.188	22.271
44	95.482	21.940
45	95.747	19.716
46	95.997	18.649
47	96.247	18.654
48	96.489	18.023
49	96.705	16.120
50	96.919	16.015
51	97.135	16.050
52	97.363	17.007
53	97.595	17.326
54	97.827	17.326
55	97.998	12.728
56	98.087	6.652
57	98.176	6.605
58	98.265	6.641
59	98.353	6.605
60	98.442	6.616
61	98.531	6.640
62	98.619	6.593
63	98.708	6.640
64	98.797	6.617
65	98.886	6.640
66	98.974	6.594
67	99.063	6.640
68	99.148	6.310
69	99.198	3.734
70	99.240	3.096
71	99.281	3.119
72	99.323	3.120
73	99.365	3.119
74	99.408	3.214
75	99.450	3.120
76	99.492	3.119
77	99.534	3.120
78	99.575	3.120
79	99.617	3.119
80	99.659	3.120
81	99.701	3.119
82	99.743	3.120
83	99.785	3.120
84	99.826	3.119
85	99.868	3.120
86	99.910	3.119
87	99.952	3.120
88	99.994	3.120
89	100.000	.475

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.44
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.12

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 296.0034
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 641.1417

```
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      200.0     400.0     600.0     800.0
--------------------------------------------------------------------------
  16.083    245.8805    540.68  .         .    V    .      Q  .         .
  16.167    249.6042    540.68  .         .    V    .      Q  .         .
  16.250    253.3278    540.68  .         .    V    .      Q  .         .
  16.333    257.0515    540.68  .         .     V   .      Q  .         .
  16.417    261.1656    597.37  .         .     V   .        Q.         .
  16.500    265.2798    597.37  .         .     V   .        Q.         .
  16.583    269.3939    597.37  .         .     V   .        Q.         .
  16.667    273.5081    597.37  .         .      V  .        Q.         .
  16.750    277.9814    649.52  .         .      V  .         . Q       .
  16.833    282.4547    649.52  .         .      V  .         . Q       .
  16.917    286.9279    649.52  .         .      V  .         . Q       .
  17.000    291.4012    649.52  .         .       V .         . Q       .
  17.083    296.2999    711.28  .         .       V .         .    Q    .
  17.167    301.1985    711.28  .         .       V .         .    Q    .
  17.250    306.0971    711.28  .         .        V.         .    Q    .
  17.333    310.9957    711.28  .         .        V.         .    Q    .
  17.417    316.0078    727.75  .         .        V.         .     Q   .
  17.500    321.0198    727.75  .         .         V         .     Q   .
  17.583    326.0318    727.75  .         .         V         .     Q   .
  17.667    331.0438    727.75  .         .         V         .     Q   .
  17.750    335.9304    709.53  .         .         V         .    Q    .
  17.833    340.8170    709.53  .         .          V        .    Q    .
  17.917    345.7036    709.53  .         .          V        .    Q    .
  18.000    350.5902    709.53  .         .          V        .    Q    .
  18.083    355.2903    682.45  .         .         . V       .   Q     .
  18.167    359.9904    682.45  .         .         . V       .   Q     .
  18.250    364.6904    682.45  .         .         . V       .   Q     .
  18.333    369.3905    682.45  .         .         .  V      .   Q     .
  18.417    373.6387    616.84  .         .         .  V      Q         .
  18.500    377.8869    616.84  .         .         .  V      Q         .
  18.583    382.1351    616.84  .         .         .  V      Q         .
  18.667    386.3833    616.84  .         .         .   V     Q         .
  18.750    390.2000    554.18  .         .         .   V  Q  .         .
  18.833    394.0166    554.18  .         .         .   V  Q  .         .
  18.917    397.8333    554.18  .         .         .   V  Q  .         .
  19.000    401.6499    554.18  .         .         .    V Q  .         .

**************************************************************************
 FLOW PROCESS FROM NODE     4.12 TO NODE     4.13 IS CODE =  52
--------------------------------------------------------------------------
 >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   35.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3185.00
          DOWNSTREAM ELEVATION =    3095.00
          CHANNEL LENGTH(FT) =    6800.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   727.75
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   536.67
          CHANNEL NORMAL VELOCITY FOR Q =   536.67 CFS =   6.88 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .802

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .612


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW       (STREAM 1)
         (HRS)        (CFS)       (CFS)         (CFS)
         14.083        291.4       275.0         275.0
         14.167        291.4       275.7         275.7
         14.250        291.4       279.3         279.3
         14.333        291.4       286.7         286.7
         14.417        315.6       289.6         289.6
         14.500        315.6       290.7         290.7
         14.583        315.6       296.5         296.5
         14.667        315.6       308.2         308.2
         14.750        348.0       312.8         312.8
         14.833        348.0       314.5         314.5
         14.917        348.0       322.3         322.3
         15.000        348.0       338.0         338.0
         15.083        392.6       344.1         344.1
         15.167        392.6       346.5         346.5
```

15.250	392.6	357.2	357.2
15.333	392.6	378.8	378.8
15.417	437.5	387.2	387.2
15.500	437.5	390.5	390.5
15.583	437.5	401.6	401.6
15.667	437.5	423.6	423.6
15.750	479.2	432.1	432.1
15.833	479.2	435.4	435.4
15.917	479.2	445.8	445.8
16.000	479.2	466.3	466.3
16.083	540.7	474.2	474.2
16.167	540.7	477.3	477.3
16.250	540.7	491.9	491.9
16.333	540.7	521.8	521.8
16.417	597.4	533.4	533.4
16.500	597.4	537.8	537.8
16.583	597.4	552.0	552.0
16.667	597.4	579.8	579.8
16.750	649.5	590.6	590.6
16.833	649.5	594.7	594.7
16.917	649.5	607.8	607.8
17.000	649.5	633.3	633.3
17.083	711.3	643.3	643.3
17.167	711.3	647.1	647.1
17.250	711.3	662.1	662.1
17.333	711.3	692.2	692.2
17.417	727.7	703.9	703.9
17.500	727.7	708.4	708.4
17.583	727.7	713.8	713.8
17.667	727.7	722.3	722.3
17.750	709.5	725.6	725.6
17.833	709.5	726.9	726.9
17.917	709.5	723.4	723.4
18.000	709.5	714.9	714.9
18.083	682.5	711.6	711.6
18.167	682.5	710.3	710.3
18.250	682.5	703.9	703.9
18.333	682.5	690.8	690.8
18.417	616.8	685.7	685.7
18.500	616.8	683.7	683.7
18.583	616.8	668.6	668.6
18.667	616.8	636.9	636.9
18.750	554.2	624.6	624.6
18.833	554.2	619.8	619.8
18.917	554.2	604.3	604.3
19.000	554.2	573.6	573.6

```
================================================================================
  PROCESS SUMMARY OF STORAGE:
    INFLOW  VOLUME =    641.141 AF
    OUTFLOW VOLUME =    641.141 AF
    LOSS    VOLUME =       .000 AF
================================================================================

  END OF FLOOD ROUTING ANALYSIS
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**************************************************************************

          F L O O D   R O U T I N G   A N A L Y S I S
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                      Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                             *
*                HYDROGRAPH AT NODE 5.07 ROUTED TO 5.10                 *
*                                                                       *
 *************************************************************************

  FILE NAME: HYD507.INP
  TIME/DATE OF STUDY: 10:15   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     5.00 TO NODE     5.07 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =     716.400 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.233 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .420
        LOW LOSS FRACTION =  .486
        *HYDROGRAPH MODEL #2 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  13.517


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.313                56.897
        2                4.476               137.003
        3                9.137               201.896
        4               16.417               315.397
        5               25.557               395.930
        6               34.339               380.420
        7               42.365               347.720
        8               50.342               345.523
        9               55.755               234.507
       10               59.937               181.150
       11               63.354               148.054
       12               66.234               124.754
       13               68.672               105.618
       14               70.819                92.988
       15               72.789                85.334
       16               74.556                76.569
       17               76.211                71.707
       18               77.687                63.936
       19               79.084                60.511
       20               80.317                53.390
       21               81.490                50.822
       22               82.553                46.063
```

23	83.552	43.275
24	84.439	38.438
25	85.279	36.363
26	86.065	34.053
27	86.770	30.558
28	87.421	28.190
29	88.055	27.458
30	88.669	26.616
31	89.170	21.666
32	89.642	20.489
33	90.116	20.495
34	90.582	20.204
35	91.029	19.374
36	91.475	19.322
37	91.921	19.330
38	92.316	17.105
39	92.666	15.165
40	93.016	15.151
41	93.365	15.103
42	93.692	14.184
43	94.012	13.860
44	94.333	13.881
45	94.644	13.494
46	94.922	12.032
47	95.195	11.847
48	95.453	11.176
49	95.699	10.654
50	95.928	9.900
51	96.156	9.895
52	96.384	9.856
53	96.590	8.934
54	96.786	8.481
55	96.982	8.489
56	97.180	8.579
57	97.390	9.105
58	97.602	9.180
59	97.814	9.195
60	97.984	7.367
61	98.066	3.568
62	98.148	3.530
63	98.229	3.500
64	98.310	3.530
65	98.391	3.500
66	98.472	3.516
67	98.553	3.500
68	98.634	3.530
69	98.716	3.516
70	98.796	3.500
71	98.878	3.530
72	98.959	3.500
73	99.040	3.515
74	99.121	3.515
75	99.180	2.539
76	99.218	1.683
77	99.256	1.637
78	99.295	1.668
79	99.333	1.637
80	99.371	1.667
81	99.411	1.713
82	99.449	1.667
83	99.488	1.668
84	99.526	1.667
85	99.565	1.668
86	99.603	1.667
87	99.642	1.667
88	99.680	1.668
89	99.719	1.667
90	99.757	1.668
91	99.796	1.667
92	99.834	1.667
93	99.872	1.668
94	99.911	1.667
95	99.949	1.668
96	99.988	1.667
97	100.000	.521

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 2.13
TOTAL EFFECTIVE RAINFALL(INCHES) = 2.43

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 127.2432
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 144.9188

```
==========================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==========================================================================
                 HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.       75.0     150.0     225.0     300.0
--------------------------------------------------------------------------
  14.083     47.4758     73.13  .        Q.  V      .         .         .
  14.167     47.9794     73.13  .        Q.  V      .         .         .
  14.250     48.5113     77.23  .         Q  V      .         .         .
  14.333     49.0432     77.23  .         Q  V      .         .         .
  14.417     49.6113     82.49  .         Q  V      .         .         .
  14.500     50.1794     82.49  .         Q  V      .         .         .
  14.583     50.7970     89.67  .         .Q  V     .         .         .
  14.667     51.4146     89.67  .         .Q  V     .         .         .
  14.750     52.0911     98.23  .         .  QV     .         .         .
  14.833     52.7676     98.23  .         .  QV     .         .         .
  14.917     53.5022    106.66  .         .   Q     .         .         .
  15.000     54.2367    106.66  .         .   Q     .         .         .
  15.083     55.0268    114.72  .         .    Q    .         .         .
  15.167     55.8168    114.72  .         .    Q    .         .         .
  15.250     56.6635    122.94  .         .    VQ   .         .         .
  15.333     57.5102    122.94  .         .    VQ   .         .         .
  15.417     58.3936    128.26  .         .     VQ  .         .         .
  15.500     59.2769    128.26  .         .     VQ  .         .         .
  15.583     60.1811    131.28  .         .     VQ  .         .         .
  15.667     61.0852    131.28  .         .     VQ  .         .         .
  15.750     62.0025    133.19  .         .      Q  .         .         .
  15.833     62.9198    133.19  .         .      Q  .         .         .
  15.917     63.8479    134.76  .         .      Q  .         .         .
  16.000     64.7760    134.76  .         .      Q  .         .         .
  16.083     65.7939    147.80  .         .       VQ.         .         .
  16.167     66.8118    147.80  .         .       VQ.         .         .
  16.250     67.9553    166.03  .         .       V . Q       .         .
  16.333     69.0988    166.03  .         .        V. Q       .         .
  16.417     70.3648    183.83  .         .        V.   Q     .         .
  16.500     71.6309    183.83  .         .        V.   Q     .         .
  16.583     73.0835    210.92  .         .         V       Q .         .
  16.667     74.5362    210.92  .         .         V       Q .         .
  16.750     76.1190    229.82  .         .         .V        Q         .
  16.833     77.7018    229.82  .         .         .V        Q         .
  16.917     79.2789    229.00  .         .         .V        Q         .
  17.000     80.8560    229.00  .         .         . V       Q         .
  17.083     82.4045    224.84  .         .         . V      Q.         .
  17.167     83.9530    224.84  .         .         .  V     Q.         .
  17.250     85.4779    221.41  .         .         .  V     Q.         .
  17.333     87.0028    221.41  .         .         .   V    Q.         .
  17.417     88.3414    194.37  .         .         .   VQ    .         .
  17.500     89.6800    194.37  .         .         .   VQ    .         .
  17.583     90.9109    178.73  .         .         .  Q V    .         .
  17.667     92.1418    178.73  .         .         .  Q V    .         .
  17.750     93.2736    164.33  .         .         .Q   V    .         .
  17.833     94.4054    164.33  .         .         .Q    V   .         .
  17.917     95.4494    151.60  .         .         Q     V   .         .
  18.000     96.4935    151.60  .         .         Q     V   .         .
  18.083     97.4585    140.12  .         .       Q .     V   .         .
  18.167     98.4235    140.12  .         .       Q .      V  .         .
  18.250     99.3199    130.17  .         .      Q  .      V  .         .
  18.333    100.2164    130.17  .         .      Q  .      V  .         .
  18.417    101.0626    122.87  .         .     Q   .      V  .         .
  18.500    101.9088    122.87  .         .     Q   .       V .         .
  18.583    102.7111    116.48  .         .    Q    .       V .         .
  18.667    103.5133    116.48  .         .    Q    .       V .         .
  18.750    104.2813    111.52  .         .   Q     .       V .         .
  18.833    105.0494    111.52  .         .   Q     .       V .         .
  18.917    105.7829    106.50  .         .   Q     .        V.         .
  19.000    106.5164    106.50  .         .   Q     .        V.         .

******************************************************************************
  FLOW PROCESS FROM NODE     5.07 TO NODE     5.10 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   20.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3770.00
          DOWNSTREAM ELEVATION =    3580.00
          CHANNEL LENGTH(FT) =    8400.00     MANNING'S FACTOR =  .040
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   229.82
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   164.89
          CHANNEL NORMAL VELOCITY FOR Q =   164.89 CFS =   5.75 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .772
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .530

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	73.1	68.1	68.1
14.167	73.1	68.7	68.7
14.250	77.2	69.6	69.6
14.333	77.2	70.4	70.4
14.417	82.5	71.8	71.8
14.500	82.5	73.0	73.0
14.583	89.7	75.3	75.3
14.667	89.7	77.0	77.0
14.750	98.2	79.9	79.9
14.833	98.2	82.2	82.2
14.917	106.7	86.2	86.2
15.000	106.7	89.1	89.1
15.083	114.7	93.9	93.9
15.167	114.7	97.3	97.3
15.250	122.9	102.3	102.3
15.333	122.9	105.6	105.6
15.417	128.3	110.4	110.4
15.500	128.3	113.8	113.8
15.583	131.3	118.6	118.6
15.667	131.3	121.6	121.6
15.750	133.2	125.1	125.1
15.833	133.2	127.2	127.2
15.917	134.8	129.4	129.4
16.000	134.8	130.6	130.6
16.083	147.8	132.0	132.0
16.167	147.8	132.8	132.8
16.250	166.0	133.8	133.8
16.333	166.0	136.0	136.0
16.417	183.8	142.3	142.3
16.500	183.8	147.5	147.5
16.583	210.9	157.3	157.3
16.667	210.9	164.2	164.2
16.750	229.8	174.6	174.6
16.833	229.8	183.0	183.0
16.917	229.0	197.8	197.8
17.000	229.0	207.2	207.2
17.083	224.8	219.2	219.2
17.167	224.8	224.7	224.7
17.250	221.4	227.0	227.0
17.333	221.4	227.5	227.5
17.417	194.4	226.1	226.1
17.500	194.4	225.0	225.0
17.583	178.7	223.1	223.1
17.667	178.7	218.7	218.7
17.750	164.3	205.8	205.8
17.833	164.3	197.8	197.8
17.917	151.6	187.7	187.7
18.000	151.6	181.1	181.1
18.083	140.1	172.2	172.2
18.167	140.1	166.4	166.4
18.250	130.2	158.6	158.6
18.333	130.2	153.4	153.4
18.417	122.9	146.4	146.4
18.500	122.9	141.8	141.8
18.583	116.5	135.6	135.6
18.667	116.5	131.8	131.8
18.750	111.5	127.1	127.1
18.833	111.5	124.0	124.0
18.917	106.5	120.0	120.0
19.000	106.5	117.5	117.5

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 144.919 AF
OUTFLOW VOLUME = 144.919 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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

          F L O O D    R O U T I N G    A N A L Y S I S
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                       Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                           DESIGN NODE 1.20                           *
*                HYDROGRAPH AT NODE 5.10 ROUTED TO 5.11                *
*                                                                      *
 **************************************************************************

  FILE NAME: HYD510.INP
  TIME/DATE OF STUDY: 10:20   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     5.00 TO NODE     5.10 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    1171.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    1.639 HOURS
         VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
         VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .346
         LOW LOSS FRACTION =  .399
         *HYDROGRAPH MODEL #3 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  15.253


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
           1                1.482                69.974
           2                5.284               179.460
           3               11.179               278.275
           4               20.417               436.106
           5               30.780               489.193
           6               39.969               433.747
           7               49.156               433.695
           8               55.565               302.565
           9               60.262               221.708
          10               64.047               178.677
          11               67.097               143.996
          12               69.738               124.650
          13               72.015               107.503
          14               74.109                98.853
          15               75.988                88.693
          16               77.674                79.587
          17               79.236                73.720
          18               80.615                65.118
          19               81.895                60.428
          20               83.075                55.666
          21               84.115                49.113
          22               85.086                45.848
          23               85.979                42.139
```

24	86.782	37.928
25	87.515	34.598
26	88.228	33.630
27	88.883	30.936
28	89.421	25.411
29	89.955	25.197
30	90.485	25.026
31	90.992	23.939
32	91.496	23.765
33	91.996	23.633
34	92.421	20.042
35	92.814	18.566
36	93.207	18.562
37	93.586	17.861
38	93.945	16.980
39	94.305	16.983
40	94.653	16.435
41	94.964	14.675
42	95.272	14.519
43	95.569	14.036
44	95.833	12.469
45	96.091	12.157
46	96.349	12.167
47	96.584	11.122
48	96.806	10.447
49	97.027	10.440
50	97.254	10.745
51	97.493	11.289
52	97.733	11.311
53	97.954	10.413
54	98.056	4.845
55	98.148	4.323
56	98.239	4.323
57	98.331	4.309
58	98.422	4.323
59	98.514	4.309
60	98.605	4.338
61	98.697	4.309
62	98.788	4.323
63	98.880	4.323
64	98.971	4.323
65	99.063	4.323
66	99.150	4.091
67	99.200	2.394
68	99.243	2.031
69	99.286	2.031
70	99.330	2.045
71	99.372	2.016
72	99.418	2.162
73	99.461	2.016
74	99.504	2.016
75	99.546	2.016
76	99.589	2.016
77	99.632	2.016
78	99.675	2.016
79	99.717	2.016
80	99.760	2.016
81	99.803	2.016
82	99.845	2.016
83	99.888	2.016
84	99.931	2.016
85	99.974	2.016
86	100.000	1.249

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.77
TOTAL EFFECTIVE RAINFALL(INCHES) = 2.79

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 172.4175
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 272.4295

```
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                 HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      100.0     200.0     300.0     400.0
--------------------------------------------------------------------------
  14.083     84.5266    132.62  .         . VQ      .         .         .
  14.167     85.4399    132.62  .         . VQ      .         .         .
  14.250     86.3533    132.62  .         . VQ      .         .         .
  14.333     87.3345    142.48  .         . V Q     .         .         .
  14.417     88.3158    142.48  .         . V Q     .         .         .
  14.500     89.2970    142.48  .         .  VQ     .         .         .
  14.583     90.3688    155.63  .         .  V Q    .         .         .
  14.667     91.4406    155.63  .         .  V Q    .         .         .
  14.750     92.5124    155.63  .         .  V Q    .         .         .
  14.833     93.7085    173.68  .         .  V   Q  .         .         .
  14.917     94.9047    173.68  .         .  V   Q  .         .         .
  15.000     96.1008    173.68  .         .   V  Q  .         .         .
  15.083     97.4353    193.77  .         .   V    Q.         .         .
  15.167     98.7698    193.77  .         .   V    Q.         .         .
  15.250    100.1043    193.77  .         .   V    Q.         .         .
  15.333    101.5577    211.04  .         .   V     .Q        .         .
  15.417    103.0112    211.04  .         .    V    .Q        .         .
  15.500    104.4647    211.04  .         .    V    .Q        .         .
  15.583    106.0191    225.70  .         .    V    . Q       .         .
  15.667    107.5735    225.70  .         .    V    . Q       .         .
  15.750    109.1280    225.70  .         .     V   . Q       .         .
  15.833    110.7638    237.52  .         .     V   .  Q      .         .
  15.917    112.3996    237.52  .         .     V   .  Q      .         .
  16.000    114.0354    237.52  .         .     V   .  Q      .         .
  16.083    115.8204    259.18  .         .      V  .    Q    .         .
  16.167    117.6054    259.18  .         .      V  .    Q    .         .
  16.250    119.3903    259.18  .         .      V  .    Q    .         .
  16.333    121.3610    286.14  .         .      V  .       Q .         .
  16.417    123.3316    286.14  .         .       V .       Q .         .
  16.500    125.3023    286.14  .         .       V .       Q .         .
  16.583    127.4746    315.42  .         .       V .         .Q        .
  16.667    129.6468    315.42  .         .        V.         .Q        .
  16.750    131.8191    315.42  .         .        V.         .Q        .
  16.833    134.2464    352.44  .         .        V.         .    Q    .
  16.917    136.6736    352.44  .         .         V         .    Q    .
  17.000    139.1009    352.44  .         .         V         .    Q    .
  17.083    141.6114    364.52  .         .         V         .     Q   .
  17.167    144.1218    364.52  .         .          V        .     Q   .
  17.250    146.6323    364.52  .         .          V        .     Q   .
  17.333    149.0810    355.55  .         .         .V        .    Q    .
  17.417    151.5297    355.55  .         .         . V       .    Q    .
  17.500    153.9785    355.55  .         .         . V       .    Q    .
  17.583    156.3707    347.35  .         .         . V       .   Q     .
  17.667    158.7629    347.35  .         .         .  V      .   Q     .
  17.750    161.1551    347.35  .         .         .  V      .   Q     .
  17.833    163.2762    307.98  .         .         .  V      Q         .
  17.917    165.3972    307.98  .         .         .   V     Q         .
  18.000    167.5183    307.98  .         .         .   V     Q         .
  18.083    169.4233    276.61  .         .         .   V  Q  .         .
  18.167    171.3284    276.61  .         .         .    V Q  .         .
  18.250    173.2335    276.61  .         .         .    V Q  .         .
  18.333    174.9716    252.37  .         .         .    Q    .         .
  18.417    176.7097    252.37  .         .         .    Q    .         .
  18.500    178.4478    252.37  .         .         .    QV   .         .
  18.583    180.0283    229.49  .         .         . Q   V   .         .
  18.667    181.6088    229.49  .         .         . Q   V   .         .
  18.750    183.1894    229.49  .         .         . Q   V   .         .
  18.833    184.6586    213.33  .         .         .Q     V  .         .
  18.917    186.1278    213.33  .         .         .Q     V  .         .
  19.000    187.5970    213.33  .         .         .Q     V  .         .

**************************************************************************
  FLOW PROCESS FROM NODE     5.10 TO NODE     5.11 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   30.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3580.00
          DOWNSTREAM ELEVATION =    3540.00
          CHANNEL LENGTH(FT) =    2000.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   364.52
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   267.71
          CHANNEL NORMAL VELOCITY FOR Q =   267.71 CFS =   6.38 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .790
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .831

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	132.6	127.3	127.3
14.167	132.6	131.7	131.7
14.250	132.6	132.5	132.5
14.333	142.5	134.0	134.0
14.417	142.5	141.1	141.1
14.500	142.5	142.2	142.2
14.583	155.6	144.3	144.3
14.667	155.6	153.7	153.7
14.750	155.6	155.3	155.3
14.833	173.7	158.2	158.2
14.917	173.7	171.1	171.1
15.000	173.7	173.2	173.2
15.083	193.8	176.5	176.5
15.167	193.8	190.9	190.9
15.250	193.8	193.3	193.3
15.333	211.0	196.2	196.2
15.417	211.0	208.5	208.5
15.500	211.0	210.6	210.6
15.583	225.7	213.1	213.1
15.667	225.7	223.6	223.6
15.750	225.7	225.3	225.3
15.833	237.5	227.4	227.4
15.917	237.5	235.8	235.8
16.000	237.5	237.2	237.2
16.083	259.2	240.6	240.6
16.167	259.2	256.1	256.1
16.250	259.2	258.7	258.7
16.333	286.1	263.0	263.0
16.417	286.1	282.2	282.2
16.500	286.1	285.5	285.5
16.583	315.4	290.3	290.3
16.667	315.4	311.2	311.2
16.750	315.4	314.7	314.7
16.833	352.4	320.7	320.7
16.917	352.4	347.1	347.1
17.000	352.4	351.5	351.5
17.083	364.5	354.0	354.0
17.167	364.5	362.8	362.8
17.250	364.5	364.2	364.2
17.333	355.6	363.2	363.2
17.417	355.6	356.8	356.8
17.500	355.6	355.8	355.8
17.583	347.3	354.4	354.4
17.667	347.3	348.5	348.5
17.750	347.3	347.6	347.6
17.833	308.0	341.7	341.7
17.917	308.0	313.7	313.7
18.000	308.0	308.9	308.9
18.083	276.6	303.6	303.6
18.167	276.6	281.2	281.2
18.250	276.6	277.4	277.4
18.333	252.4	273.2	273.2
18.417	252.4	255.9	255.9
18.500	252.4	253.0	253.0
18.583	229.5	249.1	249.1
18.667	229.5	232.8	232.8
18.750	229.5	230.1	230.1
18.833	213.3	227.2	227.2
18.917	213.3	215.7	215.7
19.000	213.3	213.7	213.7

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 272.430 AF
OUTFLOW VOLUME = 272.429 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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

          F L O O D   R O U T I N G   A N A L Y S I S
    USING ORANGE/SAN BERNARDINO COUNTY UNIT-HYDROGRAPH (1986 MANUAL)
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                           DESIGN NODE 1.20                             *
*                HYDROGRAPH AT NODE 5.11 ROUTED TO 5.13                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD511.INP
  TIME/DATE OF STUDY: 10:24   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     5.00 TO NODE     5.11 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    1649.700 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.726 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .313
        LOW LOSS FRACTION =  .360
        *HYDROGRAPH MODEL #3 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  14.484


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.407               93.597
        2                4.918              233.500
        3               10.230              353.209
        4               18.621              558.024
        5               28.504              657.312
        6               37.483              597.116
        7               46.315              587.339
        8               53.438              473.724
        9               58.420              331.296
       10               62.296              257.769
       11               65.578              218.274
       12               68.249              177.632
       13               70.609              156.945
       14               72.722              140.518
       15               74.619              126.164
       16               76.381              117.154
       17               77.945              104.029
       18               79.407               97.251
       19               80.707               86.448
       20               81.916               80.379
       21               83.038               74.631
       22               84.031               66.070
```

23	84.962	61.904
24	85.815	56.731
25	86.608	52.694
26	87.307	46.544
27	87.990	45.388
28	88.650	43.882
29	89.188	35.795
30	89.695	33.719
31	90.202	33.717
32	90.696	32.872
33	91.174	31.796
34	91.652	31.785
35	92.118	30.975
36	92.503	25.616
37	92.875	24.747
38	93.247	24.742
39	93.603	23.614
40	93.943	22.621
41	94.283	22.611
42	94.615	22.078
43	94.910	19.633
44	95.201	19.344
45	95.491	19.334
46	95.758	17.706
47	96.003	16.289
48	96.247	16.279
49	96.484	15.756
50	96.696	14.094
51	96.906	13.966
52	97.117	13.997
53	97.339	14.762
54	97.566	15.138
55	97.794	15.117
56	97.980	12.424
57	98.070	5.972
58	98.157	5.779
59	98.244	5.768
60	98.331	5.800
61	98.418	5.768
62	98.505	5.789
63	98.592	5.768
64	98.678	5.768
65	98.766	5.811
66	98.852	5.747
67	98.940	5.811
68	99.026	5.768
69	99.113	5.768
70	99.179	4.369
71	99.220	2.733
72	99.261	2.733
73	99.301	2.691
74	99.342	2.733
75	99.384	2.734
76	99.428	2.948
77	99.469	2.733
78	99.510	2.734
79	99.551	2.733
80	99.592	2.733
81	99.633	2.734
82	99.675	2.733
83	99.716	2.734
84	99.757	2.733
85	99.798	2.733
86	99.839	2.734
87	99.880	2.733
88	99.921	2.734
89	99.962	2.733
90	100.000	2.511

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.59
TOTAL EFFECTIVE RAINFALL(INCHES) = 2.97

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 219.1870
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 407.4994

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 150.0 300.0 450.0 600.0
14.083	124.9474	196.47	. . VQ . . . .
14.167	126.3005	196.47	. . VQ . . . .
14.250	127.6536	196.47	. . VQ . . . .
14.333	129.1029	210.44	. . V Q . . . .
14.417	130.5522	210.44	. . V Q . . . .
14.500	132.0016	210.44	. . V Q . . . .
14.583	133.5770	228.75	. . V Q . . . .
14.667	135.1524	228.75	. . V Q . . . .
14.750	136.7278	228.75	. . V Q . . . .
14.833	138.4766	253.92	. . V Q . . . .
14.917	140.2253	253.92	. . V Q . . . .
15.000	141.9741	253.92	. . V Q . . . .
15.083	143.9221	282.86	. . V Q . . . .
15.167	145.8702	282.86	. . V Q . . . .
15.250	147.8183	282.86	. . V Q . . . .
15.333	149.9410	308.22	. . V Q . . . .
15.417	152.0637	308.22	. . V Q . . . .
15.500	154.1864	308.22	. . V Q . . . .
15.583	156.4576	329.78	. . V .Q . . . .
15.667	158.7288	329.78	. . V .Q . . . .
15.750	161.0000	329.78	. . V .Q . . . .
15.833	163.4071	349.52	. . V . Q . . . .
15.917	165.8143	349.52	. . V . Q . . . .
16.000	168.2214	349.52	. . V . Q . . . .
16.083	170.8482	381.41	. . V . Q . . . .
16.167	173.4750	381.41	. . V . Q . . . .
16.250	176.1017	381.41	. . V . Q . . . .
16.333	178.9771	417.51	. . V . Q . . . .
16.417	181.8525	417.51	. . V . Q . . . .
16.500	184.7279	417.51	. . V . Q . . . .
16.583	187.8671	455.81	. . V . Q . . . .
16.667	191.0063	455.81	. . V . Q . . . .
16.750	194.1455	455.81	. . V. Q . . . .
16.833	197.6387	507.22	. . V. . Q . . .
16.917	201.1320	507.22	. . V. . Q . . .
17.000	204.6253	507.22	. . V . Q . . .
17.083	208.2696	529.16	. . V . . Q . .
17.167	211.9139	529.16	. . V . . Q . .
17.250	215.5582	529.16	. . V . . Q . .
17.333	219.1349	519.33	. . .V . . Q . .
17.417	222.7116	519.33	. . .V . . Q . .
17.500	226.2883	519.33	. . . V . . Q . .
17.583	229.7998	509.88	. . . V . . Q . .
17.667	233.3114	509.88	. . . V . . Q . .
17.750	236.8229	509.88	. . . V . . Q . .
17.833	240.0453	467.89	. . . V . .Q . .
17.917	243.2677	467.89	. . . V . .Q . .
18.000	246.4901	467.89	. . . V . .Q . .
18.083	249.3634	417.19	. . . V Q . . .
18.167	252.2366	417.19	. . . V Q . . .
18.250	255.1099	417.19	. . . V Q . . .
18.333	257.7323	380.77	. . . Q . . . .
18.417	260.3547	380.77	. . . Q . . . .
18.500	262.9771	380.77	. . . Q . . . .
18.583	265.3833	349.38	. . . Q V . . .
18.667	267.7895	349.38	. . . Q V . . .
18.750	270.1956	349.38	. . . Q V . . .
18.833	272.4110	321.68	. . .Q V . . .
18.917	274.6264	321.68	. . .Q V . . .
19.000	276.8418	321.68	. . .Q V . . .

****

FLOW PROCESS FROM NODE 5.11 TO NODE 5.13 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 35.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3540.00
DOWNSTREAM ELEVATION = 3420.00
CHANNEL LENGTH(FT) = 5500.00 MANNING'S FACTOR = .035
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 529.16
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 388.90
CHANNEL NORMAL VELOCITY FOR Q = 388.90 CFS = 7.19 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .809

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .663

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	196.5	186.8	186.8
14.167	196.5	187.2	187.2
14.250	196.5	193.0	193.0
14.333	210.4	195.3	195.3
14.417	210.4	196.1	196.1
14.500	210.4	205.0	205.0
14.583	228.8	208.6	208.6
14.667	228.8	209.8	209.8
14.750	228.8	221.6	221.6
14.833	253.9	226.3	226.3
14.917	253.9	227.9	227.9
15.000	253.9	244.1	244.1
15.083	282.9	250.6	250.6
15.167	282.9	252.8	252.8
15.250	282.9	271.5	271.5
15.333	308.2	279.0	279.0
15.417	308.2	281.6	281.6
15.500	308.2	298.2	298.2
15.583	329.8	304.8	304.8
15.667	329.8	307.1	307.1
15.750	329.8	321.2	321.2
15.833	349.5	326.9	326.9
15.917	349.5	328.8	328.8
16.000	349.5	341.7	341.7
16.083	381.4	346.9	346.9
16.167	381.4	348.6	348.6
16.250	381.4	369.1	369.1
16.333	417.5	377.2	377.2
16.417	417.5	380.0	380.0
16.500	417.5	403.4	403.4
16.583	455.8	412.7	412.7
16.667	455.8	415.9	415.9
16.750	455.8	440.8	440.8
16.833	507.2	450.7	450.7
16.917	507.2	454.1	454.1
17.000	507.2	487.2	487.2
17.083	529.2	500.5	500.5
17.167	529.2	504.9	504.9
17.250	529.2	520.1	520.1
17.333	519.3	526.1	526.1
17.417	519.3	528.1	528.1
17.500	519.3	522.7	522.7
17.583	509.9	520.5	520.5
17.667	509.9	519.7	519.7
17.750	509.9	513.6	513.6
17.833	467.9	511.1	511.1
17.917	467.9	510.3	510.3
18.000	467.9	483.9	483.9
18.083	417.2	473.3	473.3
18.167	417.2	469.7	469.7
18.250	417.2	437.0	437.0
18.333	380.8	423.9	423.9
18.417	380.8	419.4	419.4
18.500	380.8	395.3	395.3
18.583	349.4	385.7	385.7
18.667	349.4	382.4	382.4
18.750	349.4	361.8	361.8
18.833	321.7	353.6	353.6
18.917	321.7	350.8	350.8
19.000	321.7	332.6	332.6

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 407.500 AF
OUTFLOW VOLUME = 407.499 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

          F L O O D   R O U T I N G   A N A L Y S I S
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                      Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 5.13 ROUTED TO 5.15                  *
*                                                                        *
 ************************************************************************

  FILE NAME: HYD513.INP
  TIME/DATE OF STUDY: 10:27   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     5.00 TO NODE     5.13 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    2064.400 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    1.938 HOURS
         VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
         VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .296
         LOW LOSS FRACTION =  .340
         *HYDROGRAPH MODEL #3 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  12.900


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1               1.253              104.313
          2               4.206              245.691
          3               8.501              357.446
          4              15.058              545.666
          5              23.622              712.726
          6              32.269              719.606
          7              39.926              637.199
          8              47.899              663.549
          9              53.838              494.284
         10              58.261              368.103
         11              61.761              291.276
         12              64.816              254.189
         13              67.297              206.459
         14              69.543              186.969
         15              71.487              161.713
         16              73.337              153.971
         17              74.968              135.771
         18              76.526              129.648
         19              77.909              115.057
         20              79.228              109.811
         21              80.394               97.018
         22              81.511               92.963
```

23	82.524	84.341
24	83.486	79.991
25	84.335	70.660
26	85.148	67.690
27	85.901	62.634
28	86.603	58.438
29	87.226	51.834
30	87.837	50.912
31	88.436	49.814
32	88.962	43.798
33	89.414	37.569
34	89.865	37.574
35	90.316	37.554
36	90.752	36.280
37	91.178	35.415
38	91.604	35.433
39	92.027	35.191
40	92.384	29.781
41	92.717	27.661
42	93.049	27.682
43	93.380	27.496
44	93.690	25.783
45	93.994	25.298
46	94.298	25.311
47	94.597	24.864
48	94.863	22.141
49	95.123	21.642
50	95.383	21.657
51	95.627	20.348
52	95.848	18.325
53	96.065	18.115
54	96.284	18.174
55	96.493	17.426
56	96.681	15.672
57	96.868	15.552
58	97.055	15.581
59	97.248	16.035
60	97.450	16.836
61	97.653	16.867
62	97.856	16.852
63	97.997	11.798
64	98.075	6.457
65	98.152	6.441
66	98.230	6.441
67	98.307	6.411
68	98.385	6.471
69	98.462	6.441
70	98.539	6.441
71	98.617	6.441
72	98.694	6.441
73	98.771	6.411
74	98.849	6.471
75	98.926	6.441
76	99.004	6.441
77	99.081	6.441
78	99.154	6.048
79	99.196	3.477
80	99.232	3.024
81	99.268	3.024
82	99.305	3.055
83	99.342	3.054
84	99.378	2.994
85	99.417	3.236
86	99.453	2.994
87	99.488	2.994
88	99.524	2.994
89	99.560	2.994
90	99.596	2.994
91	99.632	2.994
92	99.668	2.994
93	99.704	2.994
94	99.740	2.994
95	99.776	2.994
96	99.812	2.994
97	99.848	2.994
98	99.884	2.994
99	99.920	2.994
100	99.956	2.994
101	99.992	2.994
102	100.000	.653

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.51
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.05

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 259.0646
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 525.1498

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==============================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==============================================================================
                 HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

------------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      175.0     350.0     525.0     700.0
------------------------------------------------------------------------------
  14.083    155.6674    245.57  .         .V  Q     .         .         .
  14.167    157.3587    245.57  .         .V  Q     .         .         .
  14.250    159.0500    245.57  .         . V Q     .         .         .
  14.333    160.8516    261.59  .         . V Q     .         .         .
  14.417    162.6532    261.59  .         . V Q     .         .         .
  14.500    164.4547    261.59  .         . V Q     .         .         .
  14.583    166.3971    282.04  .         . V   Q   .         .         .
  14.667    168.3395    282.04  .         . V   Q   .         .         .
  14.750    170.2819    282.04  .         . V   Q   .         .         .
  14.833    172.4117    309.24  .         .  V   Q  .         .         .
  14.917    174.5415    309.24  .         .  V   Q  .         .         .
  15.000    176.6712    309.24  .         .  V   Q  .         .         .
  15.083    179.0309    342.63  .         .  V     Q.         .         .
  15.167    181.3907    342.63  .         .  V     Q.         .         .
  15.250    183.7504    342.63  .         .  V     Q.         .         .
  15.333    186.3277    374.22  .         .   V     .Q        .         .
  15.417    188.9049    374.22  .         .   V     .Q        .         .
  15.500    191.4822    374.22  .         .   V     .Q        .         .
  15.583    194.2346    399.66  .         .   V     . Q       .         .
  15.667    196.9871    399.66  .         .    V    . Q       .         .
  15.750    199.7396    399.66  .         .    V    . Q       .         .
  15.833    202.6898    428.37  .         .    V    .   Q     .         .
  15.917    205.6401    428.37  .         .    V    .   Q     .         .
  16.000    208.5903    428.37  .         .    V    .   Q     .         .
  16.083    211.8337    470.95  .         .     V   .     Q   .         .
  16.167    215.0772    470.95  .         .     V   .     Q   .         .
  16.250    218.3206    470.95  .         .     V   .     Q   .         .
  16.333    221.8467    511.99  .         .     V   .        Q.         .
  16.417    225.3728    511.99  .         .      V  .        Q.         .
  16.500    228.8989    511.99  .         .      V  .        Q.         .
  16.583    232.6846    549.68  .         .      V  .         .Q        .
  16.667    236.4702    549.68  .         .       V .         .Q        .
  16.750    240.2559    549.68  .         .       V .         .Q        .
  16.833    244.4238    605.18  .         .       V .         .   Q     .
  16.917    248.5917    605.18  .         .       V .         .   Q     .
  17.000    252.7596    605.18  .         .        V.         .   Q     .
  17.083    257.1911    643.46  .         .        V.         .     Q   .
  17.167    261.6226    643.46  .         .        V.         .     Q   .
  17.250    266.0541    643.46  .         .         V         .     Q   .
  17.333    270.4824    642.99  .         .         V         .     Q   .
  17.417    274.9107    642.99  .         .         V         .     Q   .
  17.500    279.3391    642.99  .         .          V        .     Q   .
  17.583    283.6539    626.51  .         .         .V        .    Q    .
  17.667    287.9687    626.51  .         .         .V        .    Q    .
  17.750    292.2835    626.51  .         .         . V       .    Q    .
  17.833    296.5175    614.77  .         .         . V       .    Q    .
  17.917    300.7514    614.77  .         .         . V       .    Q    .
  18.000    304.9854    614.77  .         .         .  V      .    Q    .
  18.083    308.8098    555.31  .         .         .  V      .Q        .
  18.167    312.6343    555.31  .         .         .  V      .Q        .
  18.250    316.4587    555.31  .         .         .   V     .Q        .
  18.333    319.9328    504.43  .         .         .   V   Q .         .
  18.417    323.4068    504.43  .         .         .   V   Q .         .
  18.500    326.8808    504.43  .         .         .   V   Q .         .
  18.583    330.0785    464.30  .         .         .    VQ   .         .
  18.667    333.2762    464.30  .         .         .    VQ   .         .
  18.750    336.4738    464.30  .         .         .    VQ   .         .
  18.833    339.4337    429.77  .         .         .   QV    .         .
  18.917    342.3935    429.77  .         .         .   Q V   .         .
  19.000    345.3533    429.77  .         .         .   Q V   .         .

******************************************************************************
  FLOW PROCESS FROM NODE     5.13 TO NODE     5.15 IS CODE =  52
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==============================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).

        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   30.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3420.00
          DOWNSTREAM ELEVATION =    3280.00
          CHANNEL LENGTH(FT) =    7100.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =     .00

        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   643.46
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   474.71
          CHANNEL NORMAL VELOCITY FOR Q =   474.71 CFS =   7.79 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .821
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MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .644

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	245.6	233.4	233.4
14.167	245.6	234.4	234.4
14.250	245.6	238.2	238.2
14.333	261.6	243.0	243.0
14.417	261.6	244.6	244.6
14.500	261.6	250.5	250.5
14.583	282.0	257.6	257.6
14.667	282.0	260.2	260.2
14.750	282.0	267.7	267.7
14.833	309.2	276.9	276.9
14.917	309.2	280.2	280.2
15.000	309.2	290.2	290.2
15.083	342.6	302.5	302.5
15.167	342.6	306.8	306.8
15.250	342.6	319.3	319.3
15.333	374.2	334.3	334.3
15.417	374.2	339.7	339.7
15.500	374.2	351.9	351.9
15.583	399.7	366.3	366.3
15.667	399.7	371.4	371.4
15.750	399.7	381.5	381.5
15.833	428.4	393.2	393.2
15.917	428.4	397.4	397.4
16.000	428.4	408.2	408.2
16.083	470.9	421.2	421.2
16.167	470.9	425.8	425.8
16.250	470.9	441.3	441.3
16.333	512.0	460.4	460.4
16.417	512.0	467.2	467.2
16.500	512.0	483.0	483.0
16.583	549.7	501.7	501.7
16.667	549.7	508.3	508.3
16.750	549.7	522.9	522.9
16.833	605.2	540.2	540.2
16.917	605.2	546.3	546.3
17.000	605.2	566.5	566.5
17.083	643.5	591.4	591.4
17.167	643.5	600.3	600.3
17.250	643.5	615.9	615.9
17.333	643.0	633.6	633.6
17.417	643.0	640.0	640.0
17.500	643.0	642.1	642.1
17.583	626.5	642.7	642.7
17.667	626.5	642.9	642.9
17.750	626.5	637.6	637.6
17.833	614.8	630.5	630.5
17.917	614.8	627.9	627.9
18.000	614.8	623.2	623.2
18.083	555.3	617.8	617.8
18.167	555.3	615.8	615.8
18.250	555.3	595.8	595.8
18.333	504.4	569.7	569.7
18.417	504.4	560.4	560.4
18.500	504.4	540.6	540.6
18.583	464.3	517.3	517.3
18.667	464.3	509.0	509.0
18.750	464.3	493.0	493.0
18.833	429.8	474.5	474.5
18.917	429.8	467.9	467.9
19.000	429.8	454.4	454.4

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 525.149 AF
OUTFLOW VOLUME = 525.149 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
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                       Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 5.115 ROUTED TO 5.17                 *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD515.INP
  TIME/DATE OF STUDY: 10:31   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     5.00 TO NODE     5.15 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    2269.900 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    2.191 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .293
        LOW LOSS FRACTION =   .338
        *HYDROGRAPH MODEL #4 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  15.214


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
       1                1.478               101.462
       2                5.265               259.868
       3               11.129               402.417
       4               20.324               631.071
       5               30.666               709.728
       6               39.839               629.585
       7               49.020               630.094
       8               55.461               441.984
       9               60.172               323.323
      10               63.962               260.092
      11               67.022               210.046
      12               69.666               181.415
      13               71.943               156.302
      14               74.042               144.044
      15               75.920               128.885
      16               77.610               115.966
      17               79.174               107.317
      18               80.554                94.718
      19               81.838                88.137
      20               83.018                80.956
      21               84.062                71.684
      22               85.035                66.757
```

23	85.927	61.258
24	86.738	55.605
25	87.469	50.216
26	88.181	48.833
27	88.843	45.473
28	89.383	37.041
29	89.916	36.546
30	90.445	36.363
31	90.953	34.800
32	91.455	34.457
33	91.956	34.384
34	92.387	29.615
35	92.780	26.970
36	93.173	26.963
37	93.554	26.135
38	93.914	24.687
39	94.273	24.672
40	94.624	24.103
41	94.937	21.457
42	95.245	21.118
43	95.538	20.151
44	95.805	18.274
45	96.061	17.631
46	96.319	17.642
47	96.558	16.420
48	96.778	15.148
49	96.999	15.126
50	97.224	15.454
51	97.462	16.330
52	97.701	16.395
53	97.930	15.739
54	98.044	7.783
55	98.135	6.249
56	98.226	6.280
57	98.317	6.259
58	98.409	6.281
59	98.500	6.238
60	98.591	6.280
61	98.683	6.259
62	98.774	6.280
63	98.865	6.238
64	98.956	6.280
65	99.048	6.281
66	99.137	6.110
67	99.193	3.848
68	99.236	2.960
69	99.279	2.939
70	99.322	2.939
71	99.365	2.960
72	99.409	3.045
73	99.452	2.960
74	99.496	2.960
75	99.539	2.960
76	99.582	2.960
77	99.625	2.960
78	99.668	2.960
79	99.711	2.960
80	99.754	2.960
81	99.798	2.960
82	99.841	2.960
83	99.884	2.960
84	99.927	2.960
85	99.970	2.960
86	100.000	2.052

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.51
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.05

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 286.2270
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 576.0524

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 175.0 350.0 525.0 700.0
14.083	164.9053	264.01	
14.167	166.7236	264.01	
14.250	168.5419	264.01	
14.333	170.3601	264.01	
14.417	172.3330	286.47	
14.500	174.3059	286.47	
14.583	176.2788	286.47	
14.667	178.2517	286.47	
14.750	180.4328	316.69	
14.833	182.6139	316.69	
14.917	184.7950	316.69	
15.000	186.9761	316.69	
15.083	189.4439	358.32	
15.167	191.9116	358.32	
15.250	194.3794	358.32	
15.333	196.8472	358.32	
15.417	199.5991	399.58	
15.500	202.3511	399.58	
15.583	205.1030	399.58	
15.667	207.8550	399.58	
15.750	210.8665	437.27	
15.833	213.8780	437.27	
15.917	216.8895	437.27	
16.000	219.9010	437.27	
16.083	223.2974	493.17	
16.167	226.6939	493.17	
16.250	230.0904	493.17	
16.333	233.4868	493.17	
16.417	237.2345	544.16	
16.500	240.9821	544.16	
16.583	244.7298	544.16	
16.667	248.4774	544.16	
16.750	252.5627	593.19	
16.833	256.6480	593.19	
16.917	260.7333	593.19	
17.000	264.8186	593.19	
17.083	269.2943	649.87	
17.167	273.7701	649.87	
17.250	278.2458	649.87	
17.333	282.7215	649.87	
17.417	287.2711	660.61	
17.500	291.8208	660.61	
17.583	296.3704	660.61	
17.667	300.9201	660.61	
17.750	305.3465	642.72	
17.833	309.7730	642.72	
17.917	314.1994	642.72	
18.000	318.6259	642.72	
18.083	322.8623	615.13	
18.167	327.0988	615.13	
18.250	331.3352	615.13	
18.333	335.5717	615.13	
18.417	339.3513	548.79	
18.500	343.1308	548.79	
18.583	346.9104	548.79	
18.667	350.6900	548.79	
18.750	354.0951	494.42	
18.833	357.5002	494.42	
18.917	360.9052	494.42	
19.000	364.3103	494.42	

****
FLOW PROCESS FROM NODE 5.15 TO NODE 5.17 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 30.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3280.00
DOWNSTREAM ELEVATION = 3120.00
CHANNEL LENGTH(FT) = 9300.00 MANNING'S FACTOR = .035
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 660.61
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 493.86
CHANNEL NORMAL VELOCITY FOR Q = 493.86 CFS = 7.56 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .816

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .595

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	264.0	247.8	247.8
14.167	264.0	249.1	249.1
14.250	264.0	249.6	249.6
14.333	264.0	255.3	255.3
14.417	286.5	260.5	260.5
14.500	286.5	262.6	262.6
14.583	286.5	263.4	263.4
14.667	286.5	272.5	272.5
14.750	316.7	280.8	280.8
14.833	316.7	284.2	284.2
14.917	316.7	285.5	285.5
15.000	316.7	297.8	297.8
15.083	358.3	309.0	309.0
15.167	358.3	313.6	313.6
15.250	358.3	315.4	315.4
15.333	358.3	332.4	332.4
15.417	399.6	347.8	347.8
15.500	399.6	354.1	354.1
15.583	399.6	356.6	356.6
15.667	399.6	373.6	373.6
15.750	437.3	389.1	389.1
15.833	437.3	395.3	395.3
15.917	437.3	397.9	397.9
16.000	437.3	413.5	413.5
16.083	493.2	427.6	427.6
16.167	493.2	433.4	433.4
16.250	493.2	435.7	435.7
16.333	493.2	458.3	458.3
16.417	544.2	479.0	479.0
16.500	544.2	487.4	487.4
16.583	544.2	490.8	490.8
16.667	544.2	512.0	512.0
16.750	593.2	531.1	531.1
16.833	593.2	538.9	538.9
16.917	593.2	542.0	542.0
17.000	593.2	562.3	562.3
17.083	649.9	580.7	580.7
17.167	649.9	588.1	588.1
17.250	649.9	591.1	591.1
17.333	649.9	614.4	614.4
17.417	660.6	635.5	635.5
17.500	660.6	644.0	644.0
17.583	660.6	647.5	647.5
17.667	660.6	653.1	653.1
17.750	642.7	657.6	657.6
17.833	642.7	659.4	659.4
17.917	642.7	660.1	660.1
18.000	642.7	653.5	653.5
18.083	615.1	647.1	647.1
18.167	615.1	644.5	644.5
18.250	615.1	643.4	643.4
18.333	615.1	632.3	632.3
18.417	548.8	622.1	622.1
18.500	548.8	618.0	618.0
18.583	548.8	616.3	616.3
18.667	548.8	589.8	589.8
18.750	494.4	565.4	565.4
18.833	494.4	555.5	555.5
18.917	494.4	551.5	551.5
19.000	494.4	528.8	528.8

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 576.053 AF
OUTFLOW VOLUME = 576.053 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

          F L O O D   R O U T I N G   A N A L Y S I S
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 ************************ DESCRIPTION OF STUDY ************************
*                          DESIGN NODE 1.20                            *
*                 HYDROGRAPH AT NODE 5.17 ROUTED TO 7.10               *
*                                                                      *
 **************************************************************************

  FILE NAME: HYD517.INP
  TIME/DATE OF STUDY: 10:35   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     5.00 TO NODE     5.17 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    2976.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    2.533 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .278
         LOW LOSS FRACTION =  .323
         *HYDROGRAPH MODEL #4 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  13.160


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
         1                1.279               115.052
         2                4.318               273.487
         3                8.764               400.058
         4               15.622               617.066
         5               24.441               793.509
         6               33.147               783.318
         7               40.936               700.799
         8               48.980               723.828
         9               54.666               511.572
        10               58.987               388.812
        11               62.442               310.834
        12               65.434               269.288
        13               67.881               220.115
        14               70.097               199.406
        15               72.037               174.571
        16               73.865               164.503
        17               75.498               146.879
        18               77.027               137.578
        19               78.415               124.900
        20               79.695               115.173
        21               80.868               105.547
        22               81.954                97.699
```

23	82.977	92.051
24	83.890	82.171
25	84.746	77.052
26	85.535	70.988
27	86.290	67.945
28	86.948	59.182
29	87.579	56.795
30	88.193	55.206
31	88.776	52.471
32	89.249	42.504
33	89.709	41.444
34	90.170	41.442
35	90.622	40.670
36	91.057	39.120
37	91.491	39.084
38	91.925	39.076
39	92.310	34.652
40	92.651	30.640
41	92.992	30.687
42	93.332	30.598
43	93.653	28.893
44	93.965	28.058
45	94.277	28.071
46	94.585	27.723
47	94.860	24.758
48	95.127	24.037
49	95.380	22.772
50	95.626	22.114
51	95.851	20.215
52	96.073	20.032
53	96.296	20.008
54	96.508	19.080
55	96.699	17.220
56	96.890	17.171
57	97.081	17.156
58	97.280	17.894
59	97.486	18.599
60	97.693	18.581
61	97.897	18.406
62	98.016	10.645
63	98.095	7.130
64	98.174	7.084
65	98.253	7.115
66	98.331	7.083
67	98.411	7.115
68	98.490	7.115
69	98.569	7.115
70	98.647	7.083
71	98.727	7.115
72	98.805	7.083
73	98.884	7.115
74	98.963	7.115
75	99.042	7.115
76	99.121	7.084
77	99.179	5.192
78	99.216	3.365
79	99.253	3.334
80	99.291	3.365
81	99.328	3.334
82	99.365	3.333
83	99.403	3.430
84	99.440	3.333
85	99.477	3.334
86	99.514	3.333
87	99.551	3.333
88	99.588	3.333
89	99.625	3.333
90	99.662	3.334
91	99.699	3.333
92	99.736	3.333
93	99.773	3.333
94	99.810	3.333
95	99.847	3.334
96	99.884	3.333
97	99.922	3.333
98	99.959	3.333
99	99.996	3.333
100	100.000	.395

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.45
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.11

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 358.4451
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 772.0560

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==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      225.0     450.0     675.0     900.0
--------------------------------------------------------------------------
  14.083    209.8042    338.68  .         V    Q    .         .         .
  14.167    212.1367    338.68  .         V    Q    .         .         .
  14.250    214.4692    338.68  .          V   Q    .         .         .
  14.333    216.8017    338.68  .          V   Q    .         .         .
  14.417    219.3093    364.10  .         .V    Q   .         .         .
  14.500    221.8169    364.10  .         .V    Q   .         .         .
  14.583    224.3246    364.10  .         .V    Q   .         .         .
  14.667    226.8322    364.10  .         .V    Q   .         .         .
  14.750    229.5691    397.40  .         .V     Q  .         .         .
  14.833    232.3060    397.40  .         . V    Q  .         .         .
  14.917    235.0429    397.40  .         . V    Q  .         .         .
  15.000    237.7798    397.40  .         . V    Q  .         .         .
  15.083    240.8271    442.46  .         . V      Q.         .         .
  15.167    243.8743    442.46  .         . V      Q.         .         .
  15.250    246.9216    442.46  .         . V      Q.         .         .
  15.333    249.9689    442.46  .         . V      Q.         .         .
  15.417    253.3499    490.92  .         .  V      .Q        .         .
  15.500    256.7309    490.92  .         .  V      .Q        .         .
  15.583    260.1119    490.92  .         .  V      .Q        .         .
  15.667    263.4929    490.92  .         .  V      .Q        .         .
  15.750    267.2113    539.91  .         .  V      .  Q      .         .
  15.833    270.9296    539.91  .         .   V     .  Q      .         .
  15.917    274.6480    539.91  .         .   V     .  Q      .         .
  16.000    278.3663    539.91  .         .   V     .  Q      .         .
  16.083    282.5489    607.31  .         .   V     .     Q   .         .
  16.167    286.7314    607.31  .         .   V     .     Q   .         .
  16.250    290.9140    607.31  .         .    V    .     Q   .         .
  16.333    295.0966    607.31  .         .    V    .     Q   .         .
  16.417    299.7552    676.44  .         .    V    .         Q         .
  16.500    304.4139    676.44  .         .    V    .         Q         .
  16.583    309.0725    676.44  .         .     V   .         Q         .
  16.667    313.7312    676.44  .         .     V   .         Q         .
  16.750    318.7679    731.34  .         .     V   .         . Q       .
  16.833    323.8047    731.34  .         .     V   .         . Q       .
  16.917    328.8414    731.34  .         .      V  .         . Q       .
  17.000    333.8782    731.34  .         .      V  .         . Q       .
  17.083    339.3502    794.54  .         .      V  .         .    Q    .
  17.167    344.8223    794.54  .         .      V  .         .    Q    .
  17.250    350.2943    794.54  .         .       V .         .    Q    .
  17.333    355.7664    794.54  .         .       V .         .    Q    .
  17.417    361.5213    835.62  .         .       V .         .      Q  .
  17.500    367.2762    835.62  .         .        V.         .      Q  .
  17.583    373.0312    835.62  .         .        V.         .      Q  .
  17.667    378.7861    835.62  .         .        V.         .      Q  .
  17.750    384.4616    824.08  .         .        V.         .     Q   .
  17.833    390.1371    824.08  .         .         V         .     Q   .
  17.917    395.8127    824.08  .         .         V         .     Q   .
  18.000    401.4882    824.08  .         .         V         .     Q   .
  18.083    406.9729    796.39  .         .         .V        .    Q    .
  18.167    412.4577    796.39  .         .         .V        .    Q    .
  18.250    417.9425    796.39  .         .         .V        .    Q    .
  18.333    423.4272    796.39  .         .         .V        .    Q    .
  18.417    428.6870    763.72  .         .         . V       .  Q      .
  18.500    433.9468    763.72  .         .         . V       .  Q      .
  18.583    439.2066    763.72  .         .         . V       .  Q      .
  18.667    444.4664    763.72  .         .         .  V      .  Q      .
  18.750    449.2070    688.33  .         .         .  V      Q         .
  18.833    453.9476    688.33  .         .         .  V      Q         .
  18.917    458.6882    688.33  .         .         .  V      Q         .
  19.000    463.4288    688.33  .         .         .   V     Q         .

**************************************************************************
  FLOW PROCESS FROM NODE     5.17 TO NODE     7.10 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   40.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3120.00
          DOWNSTREAM ELEVATION =    3020.00
          CHANNEL LENGTH(FT) =    6700.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   835.62
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   620.39
          CHANNEL NORMAL VELOCITY FOR Q =   620.39 CFS =   7.28 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .811
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .632

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	338.7	320.6	320.6
14.167	338.7	321.2	321.2
14.250	338.7	327.0	327.0
14.333	338.7	334.4	334.4
14.417	364.1	337.1	337.1
14.500	364.1	338.1	338.1
14.583	364.1	346.7	346.7
14.667	364.1	357.7	357.7
14.750	397.4	361.8	361.8
14.833	397.4	363.2	363.2
14.917	397.4	374.6	374.6
15.000	397.4	389.0	389.0
15.083	442.5	394.3	394.3
15.167	442.5	396.3	396.3
15.250	442.5	411.6	411.6
15.333	442.5	431.1	431.1
15.417	490.9	438.3	438.3
15.500	490.9	440.9	440.9
15.583	490.9	457.6	457.6
15.667	490.9	478.7	478.7
15.750	539.9	486.4	486.4
15.833	539.9	489.3	489.3
15.917	539.9	506.2	506.2
16.000	539.9	527.5	527.5
16.083	607.3	535.3	535.3
16.167	607.3	538.2	538.2
16.250	607.3	561.1	561.1
16.333	607.3	590.3	590.3
16.417	676.4	601.1	601.1
16.500	676.4	605.0	605.0
16.583	676.4	628.9	628.9
16.667	676.4	658.9	658.9
16.750	731.3	670.0	670.0
16.833	731.3	674.1	674.1
16.917	731.3	693.4	693.4
17.000	731.3	717.4	717.4
17.083	794.5	726.2	726.2
17.167	794.5	729.4	729.4
17.250	794.5	751.1	751.1
17.333	794.5	778.6	778.6
17.417	835.6	788.7	788.7
17.500	835.6	792.4	792.4
17.583	835.6	807.1	807.1
17.667	835.6	825.1	825.1
17.750	824.1	831.8	831.8
17.833	824.1	834.2	834.2
17.917	824.1	831.4	831.4
18.000	824.1	826.8	826.8
18.083	796.4	825.1	825.1
18.167	796.4	824.4	824.4
18.250	796.4	815.2	815.2
18.333	796.4	803.3	803.3
18.417	763.7	798.9	798.9
18.500	763.7	797.3	797.3
18.583	763.7	786.2	786.2
18.667	763.7	772.0	772.0
18.750	688.3	766.8	766.8
18.833	688.3	764.8	764.8
18.917	688.3	739.7	739.7
19.000	688.3	707.2	707.2

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 772.054 AF
OUTFLOW VOLUME = 772.056 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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

          F L O O D    R O U T I N G    A N A L Y S I S
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                       Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 7.08 ROUTED TO 7.09                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD708.INP
  TIME/DATE OF STUDY: 10:37   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     7.00 TO NODE     7.08 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =     969.400 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.369 HOURS
        VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .230
        LOW LOSS FRACTION =  .262
        *HYDROGRAPH MODEL #2 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  12.174


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.183                69.342
        2                3.901               159.339
        3                7.795               228.236
        4               13.542               336.907
        5               21.346               457.438
        6               29.709               490.253
        7               37.179               437.887
        8               44.531               430.935
        9               51.348               399.606
       10               56.029               274.364
       11               59.786               220.257
       12               62.893               182.131
       13               65.609               159.193
       14               67.856               131.752
       15               69.925               121.236
       16               71.728               105.720
       17               73.463               101.697
       18               74.993                89.679
       19               76.468                86.463
       20               77.777                76.723
       21               79.039                73.966
       22               80.153                65.314
```

23	81.227	62.984
24	82.201	57.048
25	83.140	55.088
26	83.968	48.528
27	84.760	46.430
28	85.490	42.780
29	86.195	41.303
30	86.816	36.402
31	87.402	34.374
32	87.974	33.525
33	88.538	33.035
34	89.014	27.951
35	89.441	24.980
36	89.867	24.979
37	90.293	24.974
38	90.706	24.217
39	91.107	23.541
40	91.509	23.561
41	91.911	23.544
42	92.274	21.263
43	92.590	18.526
44	92.906	18.505
45	93.221	18.498
46	93.528	17.982
47	93.817	16.974
48	94.106	16.932
49	94.395	16.942
50	94.674	16.308
51	94.923	14.619
52	95.165	14.205
53	95.398	13.629
54	95.625	13.341
55	95.833	12.176
56	96.039	12.056
57	96.245	12.074
58	96.446	11.830
59	96.627	10.573
60	96.803	10.337
61	96.980	10.347
62	97.157	10.415
63	97.346	11.047
64	97.537	11.194
65	97.728	11.216
66	97.915	10.979
67	98.017	5.981
68	98.090	4.277
69	98.164	4.288
70	98.237	4.277
71	98.310	4.300
72	98.382	4.243
73	98.456	4.311
74	98.529	4.288
75	98.602	4.266
76	98.675	4.288
77	98.748	4.266
78	98.821	4.311
79	98.894	4.266
80	98.967	4.266
81	99.040	4.311
82	99.113	4.266
83	99.172	3.453
84	99.207	2.031
85	99.241	2.031
86	99.276	2.009
87	99.309	1.986
88	99.344	2.054
89	99.378	1.987
90	99.415	2.144
91	99.449	1.986
92	99.483	1.986
93	99.517	1.986
94	99.550	1.986
95	99.584	1.987
96	99.618	1.986
97	99.652	1.986
98	99.686	1.986
99	99.720	1.986
100	99.754	1.987
101	99.788	1.986
102	99.822	1.986
103	99.855	1.986
104	99.889	1.986
105	99.923	1.987
106	99.957	1.986
107	99.991	1.986
108	100.000	.530

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.15
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.41

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 92.8693
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 275.3667

```
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                 HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      100.0     200.0     300.0     400.0
--------------------------------------------------------------------------
  14.083     90.0317    138.98  .         .  Q      .         .         .
  14.167     90.9889    138.98  .         .  Q      .         .         .
  14.250     91.9954    146.14  .         .  VQ     .         .         .
  14.333     93.0019    146.14  .         .  VQ     .         .         .
  14.417     94.0702    155.13  .         .  V Q    .         .         .
  14.500     95.1386    155.13  .         .  V Q    .         .         .
  14.583     96.2876    166.83  .         .  V  Q   .         .         .
  14.667     97.4366    166.83  .         .   V Q   .         .         .
  14.750     98.6865    181.48  .         .   V   Q .         .         .
  14.833     99.9363    181.48  .         .   V   Q .         .         .
  14.917    101.2938    197.11  .         .   V    Q.         .         .
  15.000    102.6513    197.11  .         .   V    Q.         .         .
  15.083    104.1101    211.81  .         .    V    .Q        .         .
  15.167    105.5688    211.81  .         .    V    .Q        .         .
  15.250    107.1302    226.72  .         .    V    . Q       .         .
  15.333    108.6917    226.72  .         .    V    . Q       .         .
  15.417    110.3370    238.91  .         .     V   .  Q      .         .
  15.500    111.9824    238.91  .         .     V   .  Q      .         .
  15.583    113.6762    245.95  .         .     V   .   Q     .         .
  15.667    115.3701    245.95  .         .     V   .   Q     .         .
  15.750    117.0990    251.04  .         .      V  .    Q    .         .
  15.833    118.8279    251.04  .         .      V  .    Q    .         .
  15.917    120.5929    256.27  .         .      V  .    Q    .         .
  16.000    122.3578    256.27  .         .      V  .    Q    .         .
  16.083    124.2516    274.99  .         .       V .      Q  .         .
  16.167    126.1455    274.99  .         .       V .      Q  .         .
  16.250    128.1881    296.59  .         .       V .        Q.         .
  16.333    130.2307    296.59  .         .       V .        Q.         .
  16.417    132.4243    318.52  .         .        V.         .Q        .
  16.500    134.6180    318.52  .         .        V.         .Q        .
  16.583    137.0327    350.62  .         .        V.         .    Q    .
  16.667    139.4474    350.62  .         .         V         .    Q    .
  16.750    142.0718    381.06  .         .         V         .       Q .
  16.833    144.6962    381.06  .         .          V        .       Q .
  16.917    147.3918    391.41  .         .         .V        .        Q.
  17.000    150.0875    391.41  .         .         .V        .        Q.
  17.083    152.7358    384.53  .         .         . V       .       Q .
  17.167    155.3841    384.53  .         .         . V       .       Q .
  17.250    158.0285    383.97  .         .         . V       .       Q .
  17.333    160.6730    383.97  .         .         .  V      .       Q .
  17.417    163.2153    369.15  .         .         .  V      .     Q   .
  17.500    165.7577    369.15  .         .         .   V     .     Q   .
  17.583    168.0504    332.89  .         .         .   V     .  Q      .
  17.667    170.3430    332.89  .         .         .   V     .  Q      .
  17.750    172.4815    310.52  .         .         .    V    .Q        .
  17.833    174.6201    310.52  .         .         .    V    .Q        .
  17.917    176.6068    288.48  .         .         .    V  Q .         .
  18.000    178.5936    288.48  .         .         .    V  Q .         .
  18.083    180.4519    269.83  .         .         .     Q   .         .
  18.167    182.3102    269.83  .         .         .     Q   .         .
  18.250    184.0363    250.63  .         .         .    QV   .         .
  18.333    185.7625    250.63  .         .         .    QV   .         .
  18.417    187.3858    235.71  .         .         .  Q   V  .         .
  18.500    189.0092    235.71  .         .         .  Q   V  .         .
  18.583    190.5441    222.87  .         .         . Q    V  .         .
  18.667    192.0790    222.87  .         .         . Q    V  .         .
  18.750    193.5520    213.88  .         .         .Q      V .         .
  18.833    195.0251    213.88  .         .         .Q      V .         .
  18.917    196.4326    204.37  .         .         Q       V .         .
  19.000    197.8401    204.37  .         .         Q       V .         .

**************************************************************************
  FLOW PROCESS FROM NODE     7.08 TO NODE     7.09 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   30.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3235.00
          DOWNSTREAM ELEVATION =    3120.00
          CHANNEL LENGTH(FT) =    7000.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   391.41
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   280.97
          CHANNEL NORMAL VELOCITY FOR Q =   280.97 CFS =   6.11 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .782
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .572

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	139.0	130.6	130.6
14.167	139.0	132.6	132.6
14.250	146.1	133.5	133.5
14.333	146.1	136.6	136.6
14.417	155.1	138.0	138.0
14.500	155.1	142.7	142.7
14.583	166.8	144.7	144.7
14.667	166.8	150.7	150.7
14.750	181.5	153.3	153.3
14.833	181.5	161.0	161.0
14.917	197.1	164.5	164.5
15.000	197.1	174.2	174.2
15.083	211.8	178.5	178.5
15.167	211.8	189.1	189.1
15.250	226.7	193.8	193.8
15.333	226.7	204.1	204.1
15.417	238.9	208.6	208.6
15.500	238.9	219.0	219.0
15.583	245.9	223.5	223.5
15.667	245.9	232.3	232.3
15.750	251.0	236.1	236.1
15.833	251.0	241.7	241.7
15.917	256.3	244.2	244.2
16.000	256.3	248.1	248.1
16.083	275.0	249.8	249.8
16.167	275.0	253.5	253.5
16.250	296.6	255.2	255.2
16.333	296.6	266.5	266.5
16.417	318.5	271.5	271.5
16.500	318.5	285.9	285.9
16.583	350.6	292.1	292.1
16.667	350.6	307.2	307.2
16.750	381.1	313.9	313.9
16.833	381.1	334.9	334.9
16.917	391.4	344.1	344.1
17.000	391.4	365.2	365.2
17.083	384.5	374.4	374.4
17.167	384.5	384.1	384.1
17.250	384.0	388.2	388.2
17.333	384.0	386.1	386.1
17.417	369.2	385.2	385.2
17.500	369.2	384.5	384.5
17.583	332.9	384.1	384.1
17.667	332.9	375.5	375.5
17.750	310.5	371.6	371.6
17.833	310.5	349.5	349.5
17.917	288.5	339.8	339.8
18.000	288.5	323.1	323.1
18.083	269.8	315.7	315.7
18.167	269.8	300.1	300.1
18.250	250.6	293.3	293.3
18.333	250.6	279.9	279.9
18.417	235.7	274.0	274.0
18.500	235.7	260.6	260.6
18.583	222.9	254.8	254.8
18.667	222.9	243.9	243.9
18.750	213.9	239.1	239.1
18.833	213.9	229.8	229.8
18.917	204.4	225.8	225.8
19.000	204.4	219.0	219.0

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 275.367 AF
OUTFLOW VOLUME = 275.367 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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

          F L O O D    R O U T I N G    A N A L Y S I S
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                      Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 8.06 ROUUTED TO 8.08                 *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD806.INP
  TIME/DATE OF STUDY: 10:44   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.06 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =     733.000 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =     .417 HOURS
         CAUTION: LAG TIME IS LESS THAN  .50 HOURS.
         THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
         MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .246
        LOW LOSS FRACTION =  .281
        *HYDROGRAPH MODEL #1 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =   5.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  19.984


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1               2.003              177.542
          2               7.742              508.733
          3              18.193              926.509
          4              31.558             1184.785
          5              43.697             1076.062
          6              53.883              902.956
          7              60.301              568.912
          8              65.095              425.026
          9              68.809              329.243
         10              71.896              273.590
         11              74.595              239.299
         12              76.965              210.110
         13              79.045              184.362
         14              80.863              161.176
         15              82.487              143.924
         16              83.923              127.291
         17              85.191              112.396
         18              86.335              101.446
         19              87.324               87.638
```

20	88.262	83.139
21	89.078	72.413
22	89.778	62.009
23	90.473	61.592
24	91.138	58.938
25	91.797	58.459
26	92.386	52.184
27	92.903	45.895
28	93.416	45.457
29	93.896	42.540
30	94.370	42.017
31	94.811	39.129
32	95.213	35.626
33	95.590	33.400
34	95.934	30.474
35	96.272	29.934
36	96.587	27.934
37	96.876	25.688
38	97.169	25.928
39	97.479	27.497
40	97.793	27.820
41	98.016	19.778
42	98.136	10.625
43	98.256	10.636
44	98.376	10.626
45	98.496	10.625
46	98.616	10.647
47	98.735	10.604
48	98.855	10.647
49	98.975	10.625
50	99.095	10.625
51	99.186	8.047
52	99.243	5.012
53	99.299	4.991
54	99.355	4.990
55	99.414	5.220
56	99.470	4.990
57	99.527	4.991
58	99.583	4.991
59	99.639	4.991
60	99.695	4.991
61	99.752	4.990
62	99.808	4.991
63	99.864	4.991
64	99.921	4.991
65	99.977	4.991
66	100.000	2.044

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.22
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.34

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 74.7411
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 203.6985

```
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      150.0     300.0     450.0     600.0
--------------------------------------------------------------------------
  14.083     79.2173    121.59  .       Q .    V    .         .         .
  14.167     80.1075    129.26  .       Q .    V    .         .         .
  14.250     81.0824    141.56  .        Q.    V    .         .         .
  14.333     82.1617    156.71  .         Q     V   .         .         .
  14.417     83.3366    170.60  .         .Q    V   .         .         .
  14.500     84.5941    182.59  .         . Q   V   .         .         .
  14.583     85.9088    190.88  .         . Q   V   .         .         .
  14.667     87.2700    197.65  .         .  Q   V  .         .         .
  14.750     88.6710    203.42  .         .  Q   V  .         .         .
  14.833     90.1082    208.68  .         .  Q   V  .         .         .
  14.917     91.5796    213.66  .         .   Q  V  .         .         .
  15.000     93.0841    218.45  .         .   Q   V .         .         .
  15.083     94.6206    223.10  .         .   Q   V .         .         .
  15.167     96.1886    227.68  .         .    Q  V .         .         .
  15.250     97.7882    232.26  .         .    Q   V.         .         .
  15.333     99.4199    236.92  .         .    Q   V.         .         .
  15.417    101.0628    238.55  .         .    Q   V.         .         .
  15.500    102.6787    234.64  .         .    Q    V         .         .
  15.583    104.2206    223.88  .         .   Q     V         .         .
  15.667    105.6646    209.66  .         .  Q      V         .         .
  15.750    107.0345    198.91  .         .  Q      .V        .         .
  15.833    108.3664    193.39  .         . Q       .V        .         .
  15.917    109.7294    197.91  .         .  Q      .V        .         .
  16.000    111.1971    213.12  .         .   Q     .V        .         .
  16.083    113.0928    275.25  .         .       Q . V       .         .
  16.167    115.6599    372.75  .         .         . V Q     .         .
  16.250    118.9581    478.89  .         .         .  V      .Q        .
  16.333    122.6328    533.56  .         .         .   V     .    Q    .
  16.417    126.0645    498.29  .         .         .   V     .  Q      .
  16.500    129.1331    445.56  .         .         .    V   Q.         .
  16.583    131.6595    366.83  .         .         .   QV    .         .
  16.667    133.9792    336.82  .         .         . Q   V   .         .
  16.750    136.1806    319.63  .         .         .Q    V   .         .
  16.833    138.3237    311.19  .         .         Q      V  .         .
  16.917    140.4144    303.56  .         .         Q      V  .         .
  17.000    142.4507    295.68  .         .        Q.      V  .         .
  17.083    144.4194    285.86  .         .        Q.       V .         .
  17.167    146.2982    272.79  .         .       Q .       V .         .
  17.250    148.0628    256.22  .         .      Q  .        V.         .
  17.333    149.6933    236.75  .         .    Q    .        V.         .
  17.417    151.1983    218.53  .         .   Q     .        V.         .
  17.500    152.5956    202.89  .         .  Q      .        V.         .
  17.583    153.9074    190.47  .         . Q       .         V         .
  17.667    155.1577    181.55  .         . Q       .         V         .
  17.750    156.3456    172.48  .         .Q        .         V         .
  17.833    157.4777    164.38  .         Q         .         V         .
  17.917    158.5722    158.92  .         Q         .         .V        .
  18.000    159.6295    153.52  .         Q         .         .V        .
  18.083    160.6549    148.89  .        Q.         .         .V        .
  18.167    161.6434    143.53  .        Q.         .         .V        .
  18.250    162.5997    138.86  .        Q.         .         .V        .
  18.333    163.5359    135.93  .        Q.         .         . V       .
  18.417    164.4503    132.76  .       Q .         .         . V       .
  18.500    165.3460    130.05  .       Q .         .         . V       .
  18.583    166.2185    126.69  .       Q .         .         . V       .
  18.667    167.0673    123.24  .       Q .         .         . V       .
  18.750    167.8958    120.31  .       Q .         .         . V       .
  18.833    168.7058    117.60  .      Q  .         .         .  V      .
  18.917    169.5006    115.41  .      Q  .         .         .  V      .
  19.000    170.2785    112.95  .      Q  .         .         .  V      .

**************************************************************************
  FLOW PROCESS FROM NODE     8.06 TO NODE     8.08 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   20.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    4180.00
          DOWNSTREAM ELEVATION =    3930.00
          CHANNEL LENGTH(FT) =    9400.00     MANNING'S FACTOR =  .040
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   533.56
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   364.05
          CHANNEL NORMAL VELOCITY FOR Q =   364.05 CFS =   7.84 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .822
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .603

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	121.6	112.4	112.4
14.167	129.3	114.1	114.1
14.250	141.6	115.9	115.9
14.333	156.7	118.7	118.7
14.417	170.6	123.7	123.7
14.500	182.6	132.4	132.4
14.583	190.9	144.5	144.5
14.667	197.7	157.8	157.8
14.750	203.4	170.7	170.7
14.833	208.7	181.5	181.5
14.917	213.7	190.1	190.1
15.000	218.5	197.1	197.1
15.083	223.1	203.2	203.2
15.167	227.7	208.7	208.7
15.250	232.3	213.7	213.7
15.333	236.9	218.6	218.6
15.417	238.5	223.3	223.3
15.500	234.6	227.9	227.9
15.583	223.9	232.5	232.5
15.667	209.7	235.9	235.9
15.750	198.9	235.8	235.8
15.833	193.4	230.5	230.5
15.917	197.9	220.4	220.4
16.000	213.1	209.3	209.3
16.083	275.2	200.6	200.6
16.167	372.8	198.2	198.2
16.250	478.9	204.6	204.6
16.333	533.6	236.5	236.5
16.417	498.3	302.0	302.0
16.500	445.6	390.5	390.5
16.583	366.8	467.4	467.4
16.667	336.8	492.1	492.1
16.750	319.6	473.1	473.1
16.833	311.2	422.5	422.5
16.917	303.6	376.0	376.0
17.000	295.7	344.9	344.9
17.083	285.9	326.0	326.0
17.167	272.8	313.8	313.8
17.250	256.2	304.2	304.2
17.333	236.7	294.8	294.8
17.417	218.5	283.8	283.8
17.500	202.9	270.0	270.0
17.583	190.5	253.3	253.3
17.667	181.5	235.4	235.4
17.750	172.5	218.5	218.5
17.833	164.4	203.7	203.7
17.917	158.9	191.9	191.9
18.000	153.5	181.7	181.7
18.083	148.9	172.7	172.7
18.167	143.5	165.3	165.3
18.250	138.9	159.1	159.1
18.333	135.9	153.7	153.7
18.417	132.8	148.5	148.5
18.500	130.1	143.5	143.5
18.583	126.7	139.4	139.4
18.667	123.2	136.0	136.0
18.750	120.3	132.9	132.9
18.833	117.6	129.7	129.7
18.917	115.4	126.4	126.4
19.000	112.9	123.2	123.2

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 203.699 AF
OUTFLOW VOLUME = 203.699 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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

          F L O O D   R O U T I N G   A N A L Y S I S
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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 8.08 ROUTED TO 8.09                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD808.INP
  TIME/DATE OF STUDY: 10:48   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.08 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    1119.500 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =     .750 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .240
         LOW LOSS FRACTION =  .274
         *HYDROGRAPH MODEL #5 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  30.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  66.667


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                      UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1              11.125              251.036
          2              47.934              830.590
          3              67.969              452.086
          4              77.229              208.960
          5              83.170              134.062
          6              87.149               89.778
          7              89.902               62.131
          8              92.078               49.099
          9              93.811               39.098
         10              95.248               32.432
         11              96.422               26.473
         12              97.392               21.905
         13              98.108               16.148
         14              98.547                9.906
         15              98.960                9.322
         16              99.254                6.634
         17              99.450                4.427
         18              99.646                4.427
         19              99.843                4.427
         20             100.000                3.553
```

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--------------------------------------------------------------------------------

        TOTAL STORM RAINFALL(INCHES) =  4.56
        TOTAL SOIL-LOSS(INCHES) =  1.24
        TOTAL EFFECTIVE RAINFALL(INCHES) =  3.32

--------------------------------------------------------------------------------
    TOTAL SOIL-LOSS VOLUME(ACRE-FEET) =     115.9980
    TOTAL STORM RUNOFF VOLUME(ACRE-FEET) =     309.2596
--------------------------------------------------------------------------------
```

```
==============================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==============================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

------------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      125.0     250.0     375.0     500.0
------------------------------------------------------------------------------
  14.083    114.7512    195.52  .         .   VQ    .         .         .
  14.167    116.0977    195.52  .         .    Q    .         .         .
  14.250    117.4443    195.52  .         .    Q    .         .         .
  14.333    118.7909    195.52  .         .    Q    .         .         .
  14.417    120.1375    195.52  .         .    Q    .         .         .
  14.500    121.4840    195.52  .         .    Q    .         .         .
  14.583    123.3325    268.39  .         .    V    .Q        .         .
  14.667    125.1809    268.39  .         .     V   .Q        .         .
  14.750    127.0293    268.39  .         .     V   .Q        .         .
  14.833    128.8777    268.39  .         .     V   .Q        .         .
  14.917    130.7262    268.39  .         .     V   .Q        .         .
  15.000    132.5746    268.39  .         .      V  .Q        .         .
  15.083    134.7163    310.98  .         .      V  .   Q     .         .
  15.167    136.8580    310.98  .         .      V  .   Q     .         .
  15.250    138.9998    310.98  .         .      V  .   Q     .         .
  15.333    141.1415    310.98  .         .       V .   Q     .         .
  15.417    143.2833    310.98  .         .       V .   Q     .         .
  15.500    145.4250    310.98  .         .       V .   Q     .         .
  15.583    147.6705    326.04  .         .        V.     Q   .         .
  15.667    149.9159    326.04  .         .        V.     Q   .         .
  15.750    152.1614    326.04  .         .        V.     Q   .         .
  15.833    154.4068    326.04  .         .        V.     Q   .         .
  15.917    156.6523    326.04  .         .         V     Q   .         .
  16.000    158.8977    326.04  .         .         V     Q   .         .
  16.083    161.6088    393.65  .         .         V         .Q        .
  16.167    164.3199    393.65  .         .          V        .Q        .
  16.250    167.0310    393.65  .         .          V        .Q        .
  16.333    169.7421    393.65  .         .          V        .Q        .
  16.417    172.4532    393.65  .         .           V       .Q        .
  16.500    175.1643    393.65  .         .           V       .Q        .
  16.583    178.6049    499.58  .         .         .  V      .        Q.
  16.667    182.0455    499.58  .         .         .  V      .        Q.
  16.750    185.4862    499.58  .         .         .  V      .        Q.
  16.833    188.9268    499.58  .         .         .   V     .        Q.
  16.917    192.3675    499.58  .         .         .   V     .        Q.
  17.000    195.8081    499.58  .         .         .    V    .        Q.
  17.083    198.6892    418.33  .         .         .    V    .  Q      .
  17.167    201.5703    418.33  .         .         .     V   .  Q      .
  17.250    204.4513    418.33  .         .         .     V   .  Q      .
  17.333    207.3324    418.33  .         .         .     V   .  Q      .
  17.417    210.2135    418.33  .         .         .      V  .  Q      .
  17.500    213.0946    418.33  .         .         .      V  .  Q      .
  17.583    215.2058    306.55  .         .         .   Q  V  .         .
  17.667    217.3170    306.55  .         .         .   Q   V .         .
  17.750    219.4282    306.55  .         .         .   Q   V .         .
  17.833    221.5394    306.55  .         .         .   Q   V .         .
  17.917    223.6507    306.55  .         .         .   Q   V .         .
  18.000    225.7619    306.55  .         .         .   Q    V.         .
  18.083    227.4544    245.75  .         .        Q.        V.         .
  18.167    229.1469    245.75  .         .        Q.        V.         .
  18.250    230.8394    245.75  .         .        Q.        V.         .
  18.333    232.5318    245.75  .         .        Q.         V         .
  18.417    234.2243    245.75  .         .        Q.         V         .
  18.500    235.9168    245.75  .         .        Q.         V         .
  18.583    237.3738    211.55  .         .     Q   .         V         .
  18.667    238.8307    211.55  .         .     Q   .         V         .
  18.750    240.2876    211.55  .         .     Q   .          V        .
  18.833    241.7446    211.55  .         .     Q   .          V        .
  18.917    243.2015    211.55  .         .     Q   .          V        .
  19.000    244.6585    211.55  .         .     Q   .          V        .

******************************************************************************
  FLOW PROCESS FROM NODE     8.08 TO NODE     8.09 IS CODE =  52
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==============================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   30.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3930.00
          DOWNSTREAM ELEVATION =    3790.00
          CHANNEL LENGTH(FT) =    5700.00     MANNING'S FACTOR =  .040
          CONSTANT LOSS RATE(CFS) =     .00

        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   499.58
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   360.50
          CHANNEL NORMAL VELOCITY FOR Q =   360.50 CFS =   6.95 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .803
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .645

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	195.5	164.0	164.0
14.167	195.5	164.1	164.1
14.250	195.5	180.4	180.4
14.333	195.5	190.2	190.2
14.417	195.5	193.6	193.6
14.500	195.5	194.8	194.8
14.583	268.4	195.3	195.3
14.667	268.4	195.4	195.4
14.750	268.4	233.3	233.3
14.833	268.4	255.9	255.9
14.917	268.4	264.0	264.0
15.000	268.4	266.8	266.8
15.083	311.0	267.8	267.8
15.167	311.0	268.2	268.2
15.250	311.0	290.4	290.4
15.333	311.0	303.7	303.7
15.417	311.0	308.4	308.4
15.500	311.0	310.1	310.1
15.583	326.0	310.7	310.7
15.667	326.0	310.9	310.9
15.750	326.0	318.7	318.7
15.833	326.0	323.5	323.5
15.917	326.0	325.1	325.1
16.000	326.0	325.7	325.7
16.083	393.7	325.9	325.9
16.167	393.7	326.0	326.0
16.250	393.7	361.1	361.1
16.333	393.7	382.1	382.1
16.417	393.7	389.5	389.5
16.500	393.7	392.2	392.2
16.583	499.6	393.1	393.1
16.667	499.6	393.5	393.5
16.750	499.6	448.5	448.5
16.833	499.6	481.5	481.5
16.917	499.6	493.2	493.2
17.000	499.6	497.3	497.3
17.083	418.3	498.8	498.8
17.167	418.3	499.3	499.3
17.250	418.3	457.4	457.4
17.333	418.3	432.2	432.2
17.417	418.3	423.2	423.2
17.500	418.3	420.1	420.1
17.583	306.5	419.0	419.0
17.667	306.5	418.6	418.6
17.750	306.5	360.5	360.5
17.833	306.5	325.7	325.7
17.917	306.5	313.3	313.3
18.000	306.5	309.0	309.0
18.083	245.7	307.4	307.4
18.167	245.7	306.9	306.9
18.250	245.7	275.1	275.1
18.333	245.7	256.2	256.2
18.417	245.7	249.4	249.4
18.500	245.7	247.1	247.1
18.583	211.5	246.2	246.2
18.667	211.5	245.9	245.9
18.750	211.5	228.1	228.1
18.833	211.5	217.4	217.4
18.917	211.5	213.6	213.6
19.000	211.5	212.3	212.3

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 309.260 AF
OUTFLOW VOLUME = 309.260 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                HYDROGRAPH AT NODE 8.09 ROUTED TO 8.11                  *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD809.INP
  TIME/DATE OF STUDY: 10:53   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.09 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    1291.500 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =     .978 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .600
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .239
         LOW LOSS FRACTION =  .272
         *HYDROGRAPH MODEL #1 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =   5.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =   8.521


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1                .828                129.316
          2               2.508                262.382
          3               4.760                351.696
          4               7.562                437.678
          5              11.116                555.179
          6              16.101                778.520
          7              21.756                883.376
          8              27.702                928.703
          9              33.204                859.266
         10              38.222                783.843
         11              43.331                797.882
         12              48.721                841.969
         13              52.623                609.476
         14              55.835                501.680
         15              58.594                430.863
         16              60.901                360.273
         17              63.047                335.310
         18              65.003                305.505
         19              66.638                255.280
         20              68.182                241.170
         21              69.644                228.315
         22              70.923                199.907
```

23	72.169	194.576
24	73.388	190.379
25	74.463	167.846
26	75.516	164.504
27	76.542	160.209
28	77.453	142.274
29	78.351	140.280
30	79.219	135.574
31	79.987	119.961
32	80.747	118.681
33	81.482	114.794
34	82.150	104.369
35	82.814	103.798
36	83.445	98.552
37	84.005	87.403
38	84.562	87.029
39	85.097	83.522
40	85.593	77.554
41	86.089	77.442
42	86.549	71.795
43	86.960	64.182
44	87.370	64.135
45	87.774	62.983
46	88.169	61.762
47	88.564	61.721
48	88.906	53.340
49	89.204	46.578
50	89.502	46.568
51	89.800	46.579
52	90.099	46.591
53	90.397	46.559
54	90.683	44.784
55	90.964	43.899
56	91.246	43.958
57	91.527	43.880
58	91.808	43.911
59	92.086	43.448
60	92.319	36.310
61	92.538	34.337
62	92.757	34.199
63	92.977	34.257
64	93.196	34.278
65	93.413	33.926
66	93.617	31.756
67	93.817	31.302
68	94.018	31.369
69	94.218	31.259
70	94.419	31.387
71	94.614	30.493
72	94.788	27.205
73	94.960	26.824
74	95.131	26.736
75	95.303	26.823
76	95.475	26.798
77	95.636	25.133
78	95.780	22.589
79	95.924	22.516
80	96.068	22.465
81	96.212	22.515
82	96.356	22.466
83	96.493	21.357
84	96.617	19.336
85	96.740	19.251
86	96.864	19.293
87	96.987	19.294
88	97.111	19.294
89	97.239	20.023
90	97.372	20.885
91	97.506	20.882
92	97.640	20.884
93	97.774	20.882
94	97.907	20.798
95	97.991	13.227
96	98.043	7.991
97	98.093	7.948
98	98.145	8.034
99	98.196	7.991
100	98.247	7.991
101	98.298	7.904
102	98.350	8.077
103	98.400	7.905
104	98.452	8.077
105	98.502	7.905
106	98.554	7.991
107	98.605	8.077
108	98.656	7.904
109	98.707	7.991
110	98.758	7.991
111	98.809	7.991
112	98.861	7.991
113	98.912	7.991
114	98.962	7.905
115	99.014	8.076
116	99.065	7.991
117	99.116	7.905
118	99.162	7.218
119	99.187	3.953
120	99.212	3.781
121	99.235	3.694
122	99.259	3.781

123	99.283	3.694
124	99.308	3.867
125	99.332	3.694
126	99.355	3.695
127	99.380	3.867
128	99.404	3.781
129	99.428	3.781
130	99.453	3.780
131	99.477	3.781
132	99.501	3.781
133	99.525	3.781
134	99.549	3.781
135	99.574	3.780
136	99.598	3.781
137	99.622	3.781
138	99.646	3.781
139	99.670	3.781
140	99.695	3.780
141	99.719	3.781
142	99.743	3.781
143	99.767	3.781
144	99.791	3.781
145	99.816	3.780
146	99.840	3.781
147	99.864	3.781
148	99.888	3.781
149	99.912	3.781
150	99.937	3.780

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.18
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.38

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 127.4872
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 362.8736

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==========================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==========================================================================
                 HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      175.0     350.0     525.0     700.0
--------------------------------------------------------------------------
  14.083    126.9806    192.40  .         Q  V      .         .         .
  14.167    128.3443    198.00  .         .Q  V     .         .         .
  14.250    129.7539    204.68  .         .Q  V     .         .         .
  14.333    131.2169    212.44  .         . Q V     .         .         .
  14.417    132.7429    221.57  .         . Q V     .         .         .
  14.500    134.3496    233.29  .         .  QV     .         .         .
  14.583    136.0454    246.23  .         .   Q     .         .         .
  14.667    137.8343    259.74  .         .   QV    .         .         .
  14.750    139.7111    272.51  .         .    Q    .         .         .
  14.833    141.6707    284.53  .         .    VQ   .         .         .
  14.917    143.7144    296.76  .         .    VQ   .         .         .
  15.000    145.8466    309.59  .         .     VQ  .         .         .
  15.083    148.0499    319.92  .         .     V Q .         .         .
  15.167    150.3172    329.21  .         .     V Q .         .         .
  15.250    152.6442    337.88  .         .     V  Q.         .         .
  15.333    155.0271    345.99  .         .      V Q.         .         .
  15.417    157.4496    351.75  .         .      V  Q         .         .
  15.500    159.8957    355.17  .         .      V  Q         .         .
  15.583    162.3542    356.97  .         .      V  Q         .         .
  15.667    164.8183    357.79  .         .       V Q         .         .
  15.750    167.2791    357.32  .         .       V Q         .         .
  15.833    169.7164    353.90  .         .       V Q         .         .
  15.917    172.1359    351.31  .         .       V Q         .         .
  16.000    174.5662    352.88  .         .        VQ         .         .
  16.083    177.2211    385.50  .         .        V. Q       .         .
  16.167    180.1179    420.61  .         .        V.   Q     .         .
  16.250    183.1875    445.71  .         .         V    Q    .         .
  16.333    186.4230    469.79  .         .         V     Q   .         .
  16.417    189.9161    507.20  .         .         V       Q .         .
  16.500    193.8194    566.76  .         .         .V        . Q       .
  16.583    197.9293    596.75  .         .         .V        .   Q     .
  16.667    202.1236    609.01  .         .         . V       .   Q     .
  16.750    206.2196    594.75  .         .         . V       .  Q      .
  16.833    210.2328    582.71  .         .         .  V      .  Q      .
  16.917    214.2929    589.53  .         .         .  V      .  Q      .
  17.000    218.4058    597.19  .         .         .   V     .   Q     .
  17.083    222.1424    542.55  .         .         .   V     .Q        .
  17.167    225.6746    512.88  .         .         .   V    Q.         .
  17.250    229.0647    492.24  .         .         .    V  Q .         .
  17.333    232.3271    473.70  .         .         .    V Q  .         .
  17.417    235.5013    460.90  .         .         .    VQ   .         .
  17.500    238.5537    443.21  .         .         .    QV   .         .
  17.583    241.4451    419.83  .         .         .  Q  V   .         .
  17.667    244.2226    403.29  .         .         .  Q  V   .         .
  17.750    246.8928    387.71  .         .         . Q    V  .         .
  17.833    249.4404    369.92  .         .         .Q     V  .         .
  17.917    251.8962    356.58  .         .         Q      V  .         .
  18.000    254.2565    342.71  .         .        Q.       V .         .
  18.083    256.5141    327.80  .         .       Q .       V .         .
  18.167    258.7051    318.14  .         .       Q .       V .         .
  18.250    260.8339    309.11  .         .      Q  .       V .         .
  18.333    262.8893    298.44  .         .      Q  .       V .         .
  18.417    264.8967    291.47  .         .     Q   .        V.         .
  18.500    266.8556    284.43  .         .     Q   .        V.         .
  18.583    268.7567    276.04  .         .    Q    .        V.         .
  18.667    270.6221    270.85  .         .    Q    .        V.         .
  18.750    272.4491    265.28  .         .    Q    .         V         .
  18.833    274.2318    258.85  .         .   Q     .         V         .
  18.917    275.9846    254.50  .         .   Q     .         V         .
  19.000    277.7009    249.20  .         .   Q     .         V         .

**************************************************************************
  FLOW PROCESS FROM NODE     8.09 TO NODE     8.11 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   35.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3790.00
          DOWNSTREAM ELEVATION =    3600.00
          CHANNEL LENGTH(FT) =    8400.00     MANNING'S FACTOR =  .035
          CONSTANT LOSS RATE(CFS) =     .00

        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   609.01
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   425.14
          CHANNEL NORMAL VELOCITY FOR Q =   425.14 CFS =   7.50 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .815
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .606

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	192.4	182.1	182.1
14.167	198.0	184.4	184.4
14.250	204.7	186.8	186.8
14.333	212.4	190.1	190.1
14.417	221.6	194.7	194.7
14.500	233.3	200.6	200.6
14.583	246.2	207.6	207.6
14.667	259.7	215.8	215.8
14.750	272.5	226.1	226.1
14.833	284.5	238.0	238.0
14.917	296.8	250.8	250.8
15.000	309.6	263.6	263.6
15.083	319.9	276.0	276.0
15.167	329.2	288.2	288.2
15.250	337.9	300.8	300.8
15.333	346.0	312.1	312.1
15.417	351.8	322.2	322.2
15.500	355.2	331.5	331.5
15.583	357.0	340.1	340.1
15.667	357.8	347.0	347.0
15.750	357.3	351.9	351.9
15.833	353.9	354.9	354.9
15.917	351.3	356.6	356.6
16.000	352.9	357.1	357.1
16.083	385.5	355.2	355.2
16.167	420.6	352.9	352.9
16.250	445.7	352.9	352.9
16.333	469.8	371.8	371.8
16.417	507.2	400.4	400.4
16.500	566.8	427.2	427.2
16.583	596.7	452.4	452.4
16.667	609.0	484.6	484.6
16.750	594.7	532.8	532.8
16.833	582.7	570.8	570.8
16.917	589.5	593.6	593.6
17.000	597.2	594.7	594.7
17.083	542.6	587.7	587.7
17.167	512.9	588.6	588.6
17.250	492.2	593.6	593.6
17.333	473.7	564.1	564.1
17.417	460.9	533.8	533.8
17.500	443.2	509.2	509.2
17.583	419.8	488.2	488.2
17.667	403.3	472.0	472.0
17.750	387.7	455.0	455.0
17.833	369.9	434.3	434.3
17.917	356.6	415.9	415.9
18.000	342.7	399.2	399.2
18.083	327.8	381.9	381.9
18.167	318.1	366.9	366.9
18.250	309.1	352.6	352.6
18.333	298.4	338.0	338.0
18.417	291.5	326.2	326.2
18.500	284.4	316.1	316.1
18.583	276.0	305.7	305.7
18.667	270.8	297.2	297.2
18.750	265.3	289.7	289.7
18.833	258.9	281.6	281.6
18.917	254.5	275.2	275.2
19.000	249.2	269.3	269.3

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 362.874 AF
OUTFLOW VOLUME = 362.874 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                            DESIGN NODE 1.20                            *
*                  HYDROGRAPH AT NODE 8.11 ROUTED TO 8.12                *
*                                                                        *
 ************************************************************************

  FILE NAME: HYD811.INP
  TIME/DATE OF STUDY: 10:57   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.11 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    1688.100 ACRES
         BASEFLOW =    .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    1.289 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .550
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .300
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .237
         LOW LOSS FRACTION =   .270
         *HYDROGRAPH MODEL #2 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  12.930


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


==========================================================================
                      UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER         MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
         1                1.241               126.706
         2                4.161               298.068
         3                8.433               436.055
         4               14.919               662.031
         5               23.374               863.048
         6               31.995               880.055
         7               39.791               795.753
         8               47.973               835.205
         9               54.057               621.110
        10               58.593               462.970
        11               62.166               364.775
        12               65.268               316.625
        13               67.776               255.989
        14               70.034               230.442
        15               71.983               198.956
        16               73.838               189.425
        17               75.469               166.485
        18               77.025               158.780
        19               78.404               140.812
        20               79.719               134.187
        21               80.884               118.918
        22               81.997               113.628
        23               83.006               102.975
```

24	83.957	97.124
25	84.801	86.136
26	85.609	82.434
27	86.362	76.896
28	87.056	70.865
29	87.675	63.127
30	88.281	61.904
31	88.875	60.685
32	89.387	52.175
33	89.833	45.549
34	90.279	45.525
35	90.724	45.482
36	91.153	43.755
37	91.573	42.888
38	91.993	42.896
39	92.408	42.365
40	92.754	35.309
41	93.081	33.316
42	93.407	33.299
43	93.730	32.979
44	94.031	30.710
45	94.327	30.275
46	94.624	30.258
47	94.913	29.489
48	95.169	26.134
49	95.421	25.784
50	95.674	25.784
51	95.912	24.294
52	96.122	21.485
53	96.332	21.396
54	96.541	21.362
55	96.740	20.319
56	96.922	18.512
57	97.103	18.479
58	97.284	18.478
59	97.472	19.190
60	97.667	19.921
61	97.862	19.954
62	98.057	19.836
63	98.175	12.045
64	98.246	7.260
65	98.317	7.259
66	98.388	7.259
67	98.459	7.243
68	98.530	7.293
69	98.601	7.226
70	98.672	7.259
71	98.744	7.293
72	98.815	7.226
73	98.886	7.259
74	98.957	7.293
75	99.028	7.226
76	99.099	7.259
77	99.171	7.293
78	99.233	6.377
79	99.269	3.663
80	99.302	3.392
81	99.336	3.427
82	99.370	3.460
83	99.403	3.392
84	99.436	3.427
85	99.473	3.697
86	99.506	3.427
87	99.540	3.426
88	99.573	3.427
89	99.607	3.426
90	99.640	3.426
91	99.674	3.427
92	99.708	3.426
93	99.741	3.427
94	99.775	3.426
95	99.808	3.427
96	99.842	3.426
97	99.875	3.427
98	99.909	3.426
99	99.943	3.426
100	99.976	3.427
101	100.000	2.440

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.18
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.38

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 166.6589
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 474.5854

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 175.0 350.0 525.0 700.0
14.083	157.7349	242.77	Q
14.167	159.4068	242.77	Q
14.250	161.1684	255.78	VQ
14.333	162.9300	255.78	VQ
14.417	164.8058	272.36	V Q
14.500	166.6816	272.36	VQ
14.583	168.7093	294.43	V Q
14.667	170.7370	294.43	V Q
14.750	172.9505	321.39	V Q
14.833	175.1639	321.39	V Q
14.917	177.5681	349.10	V Q.
15.000	179.9724	349.10	V Q.
15.083	182.5580	375.42	V .Q
15.167	185.1435	375.42	V .Q
15.250	187.9208	403.26	V . Q
15.333	190.6980	403.26	V . Q
15.417	193.6090	422.67	V . Q
15.500	196.5199	422.67	V . Q
15.583	199.5099	434.14	V . Q
15.667	202.4999	434.14	V . Q
15.750	205.5423	441.76	V . Q
15.833	208.5846	441.76	V . Q
15.917	211.6785	449.23	V . Q
16.000	214.7724	449.23	V . Q
16.083	218.0927	482.11	V . Q
16.167	221.4130	482.11	V . Q
16.250	225.0233	524.21	V . Q.
16.333	228.6335	524.21	V. Q.
16.417	232.5414	567.42	V. . Q
16.500	236.4493	567.42	V. . Q
16.583	240.7792	628.71	V . Q
16.667	245.1092	628.71	V . Q
16.750	249.7977	680.76	.V . Q
16.833	254.4861	680.76	.V . Q
16.917	259.2487	691.53	.V . Q.
17.000	264.0113	691.53	. V . Q.
17.083	268.7179	683.39	. V . Q.
17.167	273.4244	683.39	. V . Q.
17.250	278.1475	685.79	. V . Q.
17.333	282.8706	685.79	. V . Q.
17.417	287.1742	624.89	. V . Q
17.500	291.4778	624.89	. V . Q
17.583	295.4436	575.83	. V . Q
17.667	299.4093	575.83	. V . Q
17.750	303.0786	532.77	. V Q
17.833	306.7478	532.77	. V Q
17.917	310.1659	496.32	. V Q
18.000	313.5841	496.32	. V Q
18.083	316.7436	458.76	. Q
18.167	319.9030	458.76	. Q
18.250	322.8501	427.91	. Q V
18.333	325.7971	427.91	. Q V
18.417	328.5580	400.88	. Q V
18.500	331.3189	400.88	. Q V
18.583	333.9514	382.25	.Q V
18.667	336.5840	382.25	.Q V
18.750	339.0887	363.68	Q V
18.833	341.5934	363.68	Q V
18.917	344.0023	349.78	Q. V
19.000	346.4112	349.78	Q. V.

****
FLOW PROCESS FROM NODE 8.11 TO NODE 8.12 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 40.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION = 3600.00
DOWNSTREAM ELEVATION = 3480.00
CHANNEL LENGTH(FT) = 5200.00 MANNING'S FACTOR = .035
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 691.53
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 497.30
CHANNEL NORMAL VELOCITY FOR Q = 497.30 CFS = 7.69 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .819

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .695

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	242.8	232.5	232.5
14.167	242.8	234.5	234.5
14.250	255.8	240.3	240.3
14.333	255.8	243.4	243.4
14.417	272.4	252.0	252.0
14.500	272.4	256.4	256.4
14.583	294.4	267.5	267.5
14.667	294.4	273.2	273.2
14.750	321.4	288.0	288.0
14.833	321.4	295.3	295.3
14.917	349.1	313.4	313.4
15.000	349.1	321.9	321.9
15.083	375.4	340.8	340.8
15.167	375.4	349.4	349.4
15.250	403.3	367.5	367.5
15.333	403.3	376.0	376.0
15.417	422.7	394.9	394.9
15.500	422.7	402.8	402.8
15.583	434.1	416.6	416.6
15.667	434.1	422.1	422.1
15.750	441.8	430.5	430.5
15.833	441.8	433.8	433.8
15.917	449.2	439.3	439.3
16.000	449.2	441.8	441.8
16.083	482.1	447.0	447.0
16.167	482.1	452.1	452.1
16.250	524.2	472.9	472.9
16.333	524.2	483.8	483.8
16.417	567.4	511.9	511.9
16.500	567.4	525.1	525.1
16.583	628.7	554.5	554.5
16.667	628.7	570.1	570.1
16.750	680.8	610.8	610.8
16.833	680.8	628.8	628.8
16.917	691.5	664.9	664.9
17.000	691.5	677.1	677.1
17.083	683.4	687.1	687.1
17.167	683.4	689.3	689.3
17.250	685.8	685.2	685.2
17.333	685.8	684.2	684.2
17.417	624.9	685.3	685.3
17.500	624.9	679.1	679.1
17.583	575.8	641.4	641.4
17.667	575.8	624.7	624.7
17.750	532.8	590.7	590.7
17.833	532.8	575.8	575.8
17.917	496.3	545.9	545.9
18.000	496.3	532.9	532.9
18.083	458.8	507.5	507.5
18.167	458.8	495.7	495.7
18.250	427.9	470.0	470.0
18.333	427.9	458.9	458.9
18.417	400.9	437.4	437.4
18.500	400.9	427.9	427.9
18.583	382.2	409.1	409.1
18.667	382.2	401.4	401.4
18.750	363.7	388.1	388.1
18.833	363.7	382.0	382.0
18.917	349.8	369.3	369.3
19.000	349.8	363.9	363.9

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 474.585 AF
OUTFLOW VOLUME = 474.585 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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**********************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
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                       Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                            *
*                 HYDROGRAPH AT NODE 8.12 ROUTED TO 8.13               *
*                                                                      *
 **********************************************************************

  FILE NAME: HYD812.INP
  TIME/DATE OF STUDY: 11:10   6/29/1992

**********************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.12 IS CODE =   1
----------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
======================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    2092.100 ACRES
        BASEFLOW =    .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.477 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .550
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .300
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .235
        LOW LOSS FRACTION =  .268
        *HYDROGRAPH MODEL #2 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  11.284


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


======================================================================
                    UNIT HYDROGRAPH DETERMINATION

----------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
----------------------------------------------------------------------
        1                1.083               137.042
        2                3.492               304.746
        3                6.914               432.891
        4               11.644               598.388
        5               18.369               850.784
        6               26.047               971.236
        7               33.387               928.534
        8               40.134               853.642
        9               47.372               915.616
       10               52.979               709.311
       11               57.197               533.631
       12               60.600               430.515
       13               63.501               366.996
       14               66.034               320.445
       15               68.141               266.549
       16               70.096               247.240
       17               71.792               214.657
       18               73.439               208.299
       19               74.902               185.116
       20               76.297               176.396
       21               77.575               161.768
       22               78.762               150.177
```

23	79.885	142.015
24	80.894	127.625
25	81.875	124.054
26	82.759	111.915
27	83.623	109.230
28	84.381	95.878
29	85.112	92.599
30	85.794	86.192
31	86.451	83.089
32	87.051	75.913
33	87.590	68.230
34	88.123	67.489
35	88.643	65.732
36	89.142	63.165
37	89.545	50.889
38	89.934	49.264
39	90.323	49.236
40	90.712	49.235
41	91.088	47.497
42	91.454	46.373
43	91.821	46.418
44	92.188	46.393
45	92.535	43.874
46	92.827	36.926
47	93.115	36.455
48	93.404	36.517
49	93.691	36.366
50	93.961	34.112
51	94.223	33.193
52	94.485	33.183
53	94.748	33.216
54	94.997	31.520
55	95.217	27.837
56	95.426	26.403
57	95.635	26.404
58	95.841	26.164
59	96.029	23.700
60	96.212	23.142
61	96.395	23.129
62	96.577	23.107
63	96.749	21.674
64	96.906	19.987
65	97.064	19.988
66	97.222	19.988
67	97.382	20.203
68	97.551	21.385
69	97.722	21.576
70	97.892	21.529
71	98.062	21.553
72	98.167	13.301
73	98.229	7.828
74	98.292	7.876
75	98.354	7.853
76	98.416	7.828
77	98.478	7.853
78	98.540	7.852
79	98.602	7.852
80	98.664	7.901
81	98.726	7.804
82	98.788	7.852
83	98.850	7.852
84	98.912	7.853
85	98.974	7.853
86	99.036	7.852
87	99.099	7.900
88	99.160	7.804
89	99.220	7.515
90	99.256	4.576
91	99.285	3.613
92	99.315	3.806
93	99.344	3.662
94	99.372	3.661
95	99.402	3.757
96	99.431	3.661
97	99.462	3.902
98	99.491	3.661
99	99.520	3.662
100	99.549	3.661
101	99.578	3.661
102	99.607	3.662
103	99.636	3.661
104	99.665	3.661
105	99.694	3.662
106	99.722	3.661
107	99.751	3.661
108	99.780	3.662
109	99.809	3.661
110	99.838	3.661
111	99.867	3.662
112	99.896	3.661
113	99.925	3.661
114	99.954	3.662
115	99.983	3.661
116	100.000	2.162

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.18

TOTAL EFFECTIVE RAINFALL(INCHES) = 3.38

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 205.0071
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 589.7003

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==============================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==============================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

------------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      225.0     450.0     675.0     900.0
------------------------------------------------------------------------------
  14.083    189.6844    292.91  .         . VQ      .         .         .
  14.167    191.7017    292.91  .         .  Q      .         .         .
  14.250    193.8164    307.06  .         .  Q      .         .         .
  14.333    195.9311    307.06  .         .  Q      .         .         .
  14.417    198.1670    324.66  .         .  VQ     .         .         .
  14.500    200.4030    324.66  .         .  VQ     .         .         .
  14.583    202.7894    346.51  .         .  V Q    .         .         .
  14.667    205.1759    346.51  .         .  V Q    .         .         .
  14.750    207.7556    374.57  .         .   V Q   .         .         .
  14.833    210.3352    374.57  .         .   V Q   .         .         .
  14.917    213.1297    405.76  .         .   V   Q .         .         .
  15.000    215.9242    405.76  .         .   V   Q .         .         .
  15.083    218.9308    436.56  .         .   V    Q.         .         .
  15.167    221.9375    436.56  .         .    V   Q.         .         .
  15.250    225.1497    466.41  .         .    V    Q         .         .
  15.333    228.3619    466.41  .         .    V    Q         .         .
  15.417    231.7623    493.74  .         .    V    .Q        .         .
  15.500    235.1627    493.74  .         .    V    .Q        .         .
  15.583    238.6903    512.21  .         .     V   . Q       .         .
  15.667    242.2180    512.21  .         .     V   . Q       .         .
  15.750    245.8374    525.55  .         .     V   .  Q      .         .
  15.833    249.4569    525.55  .         .     V   .  Q      .         .
  15.917    253.1769    540.13  .         .      V  .   Q     .         .
  16.000    256.8968    540.13  .         .      V  .   Q     .         .
  16.083    260.8900    579.81  .         .      V  .    Q    .         .
  16.167    264.8832    579.81  .         .      V  .    Q    .         .
  16.250    269.1596    620.93  .         .       V .      Q  .         .
  16.333    273.4359    620.93  .         .       V .      Q  .         .
  16.417    277.9758    659.19  .         .       V .        Q.         .
  16.500    282.5157    659.19  .         .        V.        Q.         .
  16.583    287.4348    714.25  .         .        V.         .Q        .
  16.667    292.3539    714.25  .         .        V.         .Q        .
  16.750    297.7148    778.42  .         .         V         .   Q     .
  16.833    303.0758    778.42  .         .         V         .   Q     .
  16.917    308.6559    810.22  .         .         V         .     Q   .
  17.000    314.2359    810.22  .         .          V        .     Q   .
  17.083    319.7953    807.22  .         .         .V        .    Q    .
  17.167    325.3547    807.22  .         .         . V       .    Q    .
  17.250    330.8590    799.23  .         .         . V       .    Q    .
  17.333    336.3633    799.23  .         .         . V       .    Q    .
  17.417    341.8967    803.45  .         .         .  V      .    Q    .
  17.500    347.4301    803.45  .         .         .  V      .    Q    .
  17.583    352.5175    738.70  .         .         .  V      . Q       .
  17.667    357.6050    738.70  .         .         .   V     . Q       .
  17.750    362.2968    681.25  .         .         .   V     Q         .
  17.833    366.9887    681.25  .         .         .   V     Q         .
  17.917    371.3535    633.77  .         .         .    V  Q .         .
  18.000    375.7184    633.77  .         .         .    V  Q .         .
  18.083    379.8060    593.52  .         .         .    VQ   .         .
  18.167    383.8936    593.52  .         .         .     Q   .         .
  18.250    387.7252    556.35  .         .         .   Q V   .         .
  18.333    391.5568    556.35  .         .         .   Q V   .         .
  18.417    395.1196    517.32  .         .         . Q   V   .         .
  18.500    398.6823    517.32  .         .         . Q    V  .         .
  18.583    402.0569    489.99  .         .         .Q     V  .         .
  18.667    405.4315    489.99  .         .         .Q     V  .         .
  18.750    408.6310    464.56  .         .         Q      V  .         .
  18.833    411.8304    464.56  .         .         Q      V  .         .
  18.917    414.9120    447.45  .         .        Q.       V .         .
  19.000    417.9936    447.45  .         .        Q.       V .         .

******************************************************************************
  FLOW PROCESS FROM NODE     8.12 TO NODE     8.13 IS CODE =  52
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==============================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   40.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3480.00
          DOWNSTREAM ELEVATION =    3355.00
          CHANNEL LENGTH(FT) =    6000.00     MANNING'S FACTOR =  .032
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   810.22
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   589.56
          CHANNEL NORMAL VELOCITY FOR Q =   589.56 CFS =   8.43 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .832
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .698

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	292.9	281.1	281.1
14.167	292.9	282.7	282.7
14.250	307.1	289.8	289.8
14.333	307.1	292.2	292.2
14.417	324.7	302.6	302.6
14.500	324.7	306.0	306.0
14.583	346.5	319.0	319.0
14.667	346.5	323.4	323.4
14.750	374.6	339.5	339.5
14.833	374.6	344.9	344.9
14.917	405.8	365.6	365.6
15.000	405.8	372.4	372.4
15.083	436.6	395.7	395.7
15.167	436.6	403.3	403.3
15.250	466.4	426.5	426.5
15.333	466.4	434.1	434.1
15.417	493.7	456.7	456.7
15.500	493.7	464.0	464.0
15.583	512.2	484.8	484.8
15.667	512.2	491.4	491.4
15.750	525.6	505.9	505.9
15.833	525.6	510.6	510.6
15.917	540.1	521.0	521.0
16.000	540.1	524.5	524.5
16.083	579.8	535.4	535.4
16.167	579.8	539.4	539.4
16.250	620.9	567.6	567.6
16.333	620.9	576.9	576.9
16.417	659.2	607.6	607.6
16.500	659.2	617.6	617.6
16.583	714.3	646.6	646.6
16.667	714.3	656.4	656.4
16.750	778.4	696.8	696.8
16.833	778.4	710.2	710.2
16.917	810.2	757.8	757.8
17.000	810.2	772.8	772.8
17.083	807.2	798.9	798.9
17.167	807.2	806.8	806.8
17.250	799.2	807.1	807.1
17.333	799.2	807.0	807.0
17.417	803.4	801.6	801.6
17.500	803.4	800.0	800.0
17.583	738.7	802.4	802.4
17.667	738.7	801.9	801.9
17.750	681.3	757.8	757.8
17.833	681.3	743.4	743.4
17.917	633.8	700.0	700.0
18.000	633.8	686.0	686.0
18.083	593.5	649.5	649.5
18.167	593.5	637.8	637.8
18.250	556.3	606.9	606.9
18.333	556.3	596.9	596.9
18.417	517.3	568.6	568.6
18.500	517.3	559.3	559.3
18.583	490.0	530.0	530.0
18.667	490.0	520.6	520.6
18.750	464.6	499.2	499.2
18.833	464.6	492.3	492.3
18.917	447.4	472.9	472.9
19.000	447.4	466.8	466.8

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 589.700 AF
OUTFLOW VOLUME = 589.701 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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

          F L O O D    R O U T I N G    A N A L Y S I S
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                 HYDROGRAPH AT NODE 8.13 ROUTED TO 8.14                 *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD813.INP
  TIME/DATE OF STUDY: 11:16   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.13 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    4240.000 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.675 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .500
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .350
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .237
        LOW LOSS FRACTION =  .270
        *HYDROGRAPH MODEL #3 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  14.925


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1               1.415               241.931
          2               4.989               610.729
          3              10.522               945.743
          4              19.071              1461.345
          5              29.056              1706.589
          6              38.354              1589.355
          7              47.883              1628.754
          8              54.970              1211.307
          9              60.045               867.458
         10              64.025               680.199
         11              67.270               554.704
         12              69.972               461.819
         13              72.280               394.525
         14              74.416               365.101
         15              76.289               320.181
         16              78.015               295.018
         17              79.576               266.739
         18              80.974               238.911
         19              82.275               222.502
         20              83.444               199.707
         21              84.520               183.934
         22              85.482               164.544
         23              86.380               153.372
```

24	87.224	144.317
25	87.948	123.709
26	88.645	119.171
27	89.322	115.774
28	89.885	96.204
29	90.393	86.739
30	90.900	86.744
31	91.397	84.890
32	91.875	81.689
33	92.352	81.644
34	92.816	79.279
35	93.197	65.127
36	93.565	62.905
37	93.933	62.883
38	94.279	59.046
39	94.611	56.818
40	94.944	56.862
41	95.260	54.026
42	95.543	48.344
43	95.824	48.148
44	96.102	47.509
45	96.345	41.418
46	96.576	39.545
47	96.807	39.500
48	97.021	36.527
49	97.222	34.423
50	97.424	34.422
51	97.629	35.163
52	97.845	36.905
53	98.062	36.996
54	98.271	35.742
55	98.367	16.434
56	98.442	12.794
57	98.516	12.750
58	98.591	12.748
59	98.666	12.750
60	98.740	12.750
61	98.815	12.794
62	98.889	12.704
63	98.964	12.794
64	99.039	12.750
65	99.113	12.750
66	99.188	12.748
67	99.263	12.794
68	99.317	9.350
69	99.353	6.039
70	99.388	5.993
71	99.423	5.995
72	99.458	6.039
73	99.493	5.995
74	99.533	6.755
75	99.568	5.993
76	99.603	5.995
77	99.638	5.993
78	99.673	5.995
79	99.708	5.993
80	99.743	5.995
81	99.778	5.993
82	99.813	5.995
83	99.849	5.993
84	99.884	5.995
85	99.919	5.993
86	99.954	5.995
87	99.989	5.993
88	100.000	1.918

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.20
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.36

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 422.7087
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1187.9060

```
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      400.0     800.0    1200.0    1600.0
--------------------------------------------------------------------------
  14.083    371.9010    582.22  .         . V Q     .         .         .
  14.167    375.9108    582.22  .         . V Q     .         .         .
  14.250    379.9206    582.22  .         . V Q     .         .         .
  14.333    384.2175    623.90  .         . V  Q    .         .         .
  14.417    388.5143    623.90  .         .  V Q    .         .         .
  14.500    392.8112    623.90  .         .  V Q    .         .         .
  14.583    397.4896    679.32  .         .  V  Q   .         .         .
  14.667    402.1681    679.32  .         .  V  Q   .         .         .
  14.750    406.8466    679.32  .         .  V  Q   .         .         .
  14.833    412.0427    754.48  .         .  V    Q .         .         .
  14.917    417.2388    754.48  .         .   V   Q .         .         .
  15.000    422.4349    754.48  .         .   V   Q .         .         .
  15.083    428.2233    840.48  .         .   V     .Q        .         .
  15.167    434.0117    840.48  .         .   V     .Q        .         .
  15.250    439.8000    840.48  .         .   V     .Q        .         .
  15.333    446.1171    917.24  .         .    V    . Q       .         .
  15.417    452.4342    917.24  .         .    V    . Q       .         .
  15.500    458.7513    917.24  .         .    V    . Q       .         .
  15.583    465.5334    984.77  .         .    V    .   Q     .         .
  15.667    472.3156    984.77  .         .    V    .   Q     .         .
  15.750    479.0978    984.77  .         .     V   .   Q     .         .
  15.833    486.2732   1041.87  .         .     V   .     Q   .         .
  15.917    493.4486   1041.87  .         .     V   .     Q   .         .
  16.000    500.6240   1041.87  .         .     V   .     Q   .         .
  16.083    508.4189   1131.82  .         .      V  .       Q .         .
  16.167    516.2138   1131.82  .         .      V  .       Q .         .
  16.250    524.0087   1131.82  .         .      V  .       Q .         .
  16.333    532.5153   1235.14  .         .      V  .         Q         .
  16.417    541.0218   1235.14  .         .       V .         Q         .
  16.500    549.5283   1235.14  .         .       V .         Q         .
  16.583    558.7976   1345.90  .         .       V .         .  Q      .
  16.667    568.0669   1345.90  .         .        V.         .  Q      .
  16.750    577.3362   1345.90  .         .        V.         .  Q      .
  16.833    587.5342   1480.75  .         .        V.         .      Q  .
  16.917    597.7322   1480.75  .         .         V         .      Q  .
  17.000    607.9302   1480.75  .         .         V         .      Q  .
  17.083    618.5390   1540.40  .         .         V         .       Q .
  17.167    629.1478   1540.40  .         .          V        .       Q .
  17.250    639.7567   1540.40  .         .          V        .       Q .
  17.333    650.2686   1526.34  .         .         .V        .       Q .
  17.417    660.7806   1526.34  .         .         . V       .       Q .
  17.500    671.2925   1526.34  .         .         . V       .       Q .
  17.583    681.6569   1504.91  .         .         . V       .      Q  .
  17.667    692.0213   1504.91  .         .         .  V      .      Q  .
  17.750    702.3857   1504.91  .         .         .  V      .      Q  .
  17.833    711.7613   1361.34  .         .         .  V      .   Q     .
  17.917    721.1369   1361.34  .         .         .   V     .   Q     .
  18.000    730.5125   1361.34  .         .         .   V     .   Q     .
  18.083    738.9420   1223.97  .         .         .   V     Q         .
  18.167    747.3715   1223.97  .         .         .    V    Q         .
  18.250    755.8010   1223.97  .         .         .    V    Q         .
  18.333    763.4915   1116.66  .         .         .    V Q  .         .
  18.417    771.1820   1116.66  .         .         .    V Q  .         .
  18.500    778.8725   1116.66  .         .         .     VQ  .         .
  18.583    785.8766   1016.99  .         .         .    QV   .         .
  18.667    792.8807   1016.99  .         .         .    QV   .         .
  18.750    799.8848   1016.99  .         .         .    QV   .         .
  18.833    806.3484    938.52  .         .         .  Q   V  .         .
  18.917    812.8120    938.52  .         .         .  Q   V  .         .
  19.000    819.2756    938.52  .         .         .  Q   V  .         .

**************************************************************************
  FLOW PROCESS FROM NODE     8.13 TO NODE     8.14 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   45.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3355.00
          DOWNSTREAM ELEVATION =    3270.00
          CHANNEL LENGTH(FT) =    4500.00     MANNING'S FACTOR =  .032
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  1540.40
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  1142.73
          CHANNEL NORMAL VELOCITY FOR Q =  1142.73 CFS =   9.96 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .854
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .806

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	582.2	555.2	555.2
14.167	582.2	570.8	570.8
14.250	582.2	580.0	580.0
14.333	623.9	581.8	581.8
14.417	623.9	606.1	606.1
14.500	623.9	620.5	620.5
14.583	679.3	623.2	623.2
14.667	679.3	655.7	655.7
14.750	679.3	674.7	674.7
14.833	754.5	678.4	678.4
14.917	754.5	722.4	722.4
15.000	754.5	748.3	748.3
15.083	840.5	753.3	753.3
15.167	840.5	803.7	803.7
15.250	840.5	833.3	833.3
15.333	917.2	839.1	839.1
15.417	917.2	884.4	884.4
15.500	917.2	910.9	910.9
15.583	984.8	916.0	916.0
15.667	984.8	955.9	955.9
15.750	984.8	979.2	979.2
15.833	1041.9	983.7	983.7
15.917	1041.9	1017.4	1017.4
16.000	1041.9	1037.1	1037.1
16.083	1131.8	1041.0	1041.0
16.167	1131.8	1093.5	1093.5
16.250	1131.8	1124.4	1124.4
16.333	1235.1	1130.4	1130.4
16.417	1235.1	1191.0	1191.0
16.500	1235.1	1226.6	1226.6
16.583	1345.9	1233.5	1233.5
16.667	1345.9	1298.6	1298.6
16.750	1345.9	1336.7	1336.7
16.833	1480.8	1344.1	1344.1
16.917	1480.8	1423.2	1423.2
17.000	1480.8	1469.6	1469.6
17.083	1540.4	1478.6	1478.6
17.167	1540.4	1514.7	1514.7
17.250	1540.4	1535.4	1535.4
17.333	1526.3	1539.4	1539.4
17.417	1526.3	1532.1	1532.1
17.500	1526.3	1527.5	1527.5
17.583	1504.9	1526.6	1526.6
17.667	1504.9	1514.0	1514.0
17.750	1504.9	1506.7	1506.7
17.833	1361.3	1505.2	1505.2
17.917	1361.3	1422.4	1422.4
18.000	1361.3	1373.2	1373.2
18.083	1224.0	1363.6	1363.6
18.167	1224.0	1282.7	1282.7
18.250	1224.0	1235.4	1235.4
18.333	1116.7	1226.2	1226.2
18.417	1116.7	1162.6	1162.6
18.500	1116.7	1125.6	1125.6
18.583	1017.0	1118.4	1118.4
18.667	1017.0	1059.6	1059.6
18.750	1017.0	1025.3	1025.3
18.833	938.5	1018.6	1018.6
18.917	938.5	972.1	972.1
19.000	938.5	945.0	945.0

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 1187.906 AF
OUTFLOW VOLUME = 1187.906 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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

          F L O O D   R O U T I N G   A N A L Y S I S
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                      Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                             *
*                HYDROGRAPH AT NODE 8.14 ROUTED TO 8.15                 *
*                                                                       *
 *************************************************************************

  FILE NAME: HYD814.INP
  TIME/DATE OF STUDY: 11:20   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.14 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    4684.800 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    1.801 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .500
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .350
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .237
        LOW LOSS FRACTION =  .270
        *HYDROGRAPH MODEL #3 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  13.881


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1               1.316               248.610
          2               4.513               603.789
          3               9.321               907.974
          4              16.746              1402.126
          5              25.936              1735.760
          6              34.858              1684.959
          7              43.526              1636.896
          8              51.696              1542.955
          9              57.223              1043.790
         10              61.457               799.646
         11              64.984               666.200
         12              67.817               535.019
         13              70.286               466.165
         14              72.402               399.698
         15              74.390               375.482
         16              76.134               329.213
         17              77.769               308.770
         18              79.232               276.326
         19              80.582               254.967
         20              81.817               233.269
         21              82.943               212.718
         22              84.002               199.903
```

23	84.931	175.530
24	85.813	166.469
25	86.628	154.005
26	87.390	143.835
27	88.051	124.892
28	88.697	121.986
29	89.327	119.025
30	89.853	99.245
31	90.325	89.140
32	90.797	89.136
33	91.264	88.231
34	91.711	84.356
35	92.155	83.888
36	92.599	83.879
37	92.994	74.641
38	93.340	65.278
39	93.685	65.294
40	94.029	64.909
41	94.348	60.219
42	94.661	59.035
43	94.973	59.007
44	95.272	56.394
45	95.538	50.289
46	95.795	48.629
47	96.043	46.845
48	96.270	42.747
49	96.485	40.660
50	96.700	40.624
51	96.911	39.791
52	97.101	35.804
53	97.288	35.377
54	97.475	35.379
55	97.669	36.602
56	97.870	37.982
57	98.071	37.982
58	98.267	36.921
59	98.360	17.659
60	98.430	13.102
61	98.499	13.126
62	98.568	13.100
63	98.638	13.074
64	98.707	13.126
65	98.777	13.128
66	98.846	13.073
67	98.915	13.128
68	98.985	13.126
69	99.054	13.074
70	99.124	13.128
71	99.193	13.126
72	99.262	13.074
73	99.315	9.938
74	99.348	6.165
75	99.381	6.217
76	99.413	6.165
77	99.446	6.164
78	99.478	6.112
79	99.513	6.590
80	99.546	6.112
81	99.578	6.112
82	99.610	6.112
83	99.643	6.112
84	99.675	6.112
85	99.707	6.112
86	99.740	6.112
87	99.772	6.112
88	99.804	6.112
89	99.837	6.112
90	99.869	6.112
91	99.902	6.112
92	99.934	6.112
93	99.966	6.112
94	99.999	6.112
95	100.000	.262

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.20
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.36

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 467.0532
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1312.5240

```
==============================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==============================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

------------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      425.0     850.0    1275.0    1700.0
------------------------------------------------------------------------------
  14.083    402.3688    631.74  .         . V Q     .         .         .
  14.167    406.7197    631.74  .         . V Q     .         .         .
  14.250    411.0705    631.74  .         . V Q     .         .         .
  14.333    415.7171    674.68  .         . V  Q    .         .         .
  14.417    420.3636    674.68  .         . V  Q    .         .         .
  14.500    425.0102    674.68  .         . V  Q    .         .         .
  14.583    430.0385    730.12  .         .  V   Q  .         .         .
  14.667    435.0669    730.12  .         .  V   Q  .         .         .
  14.750    440.0952    730.12  .         .  V   Q  .         .         .
  14.833    445.6380    804.82  .         .  V    Q .         .         .
  14.917    451.1808    804.82  .         .  V    Q .         .         .
  15.000    456.7237    804.82  .         .  V    Q .         .         .
  15.083    462.8774    893.52  .         .   V     .Q        .         .
  15.167    469.0312    893.52  .         .   V     .Q        .         .
  15.250    475.1849    893.52  .         .   V     .Q        .         .
  15.333    481.9016    975.26  .         .   V     . Q       .         .
  15.417    488.6183    975.26  .         .   V     . Q       .         .
  15.500    495.3349    975.26  .         .    V    . Q       .         .
  15.583    502.5343   1045.35  .         .    V    .   Q     .         .
  15.667    509.7337   1045.35  .         .    V    .   Q     .         .
  15.750    516.9331   1045.35  .         .    V    .   Q     .         .
  15.833    524.6302   1117.63  .         .    V    .     Q   .         .
  15.917    532.3274   1117.63  .         .     V   .     Q   .         .
  16.000    540.0245   1117.63  .         .     V   .     Q   .         .
  16.083    548.4189   1218.86  .         .     V   .       Q .         .
  16.167    556.8132   1218.86  .         .     V   .       Q .         .
  16.250    565.2076   1218.86  .         .      V  .       Q .         .
  16.333    574.3239   1323.68  .         .      V  .         .Q        .
  16.417    583.4401   1323.68  .         .      V  .         .Q        .
  16.500    592.5564   1323.68  .         .       V .         .Q        .
  16.583    602.4040   1429.87  .         .       V .         .  Q      .
  16.667    612.2516   1429.87  .         .       V .         .  Q      .
  16.750    622.0992   1429.87  .         .       V .         .  Q      .
  16.833    632.9116   1569.96  .         .        V.         .     Q   .
  16.917    643.7241   1569.96  .         .        V.         .     Q   .
  17.000    654.5365   1569.96  .         .        V.         .     Q   .
  17.083    665.8802   1647.11  .         .         V         .       Q .
  17.167    677.2240   1647.11  .         .         V         .       Q .
  17.250    688.5677   1647.11  .         .         V         .       Q .
  17.333    699.8690   1640.93  .         .         .V        .       Q .
  17.417    711.1702   1640.93  .         .         .V        .       Q .
  17.500    722.4714   1640.93  .         .         . V       .       Q .
  17.583    733.6469   1622.69  .         .         . V       .       Q .
  17.667    744.8224   1622.69  .         .         . V       .       Q .
  17.750    755.9980   1622.69  .         .         .  V      .       Q .
  17.833    766.6432   1545.69  .         .         .  V      .     Q   .
  17.917    777.2885   1545.69  .         .         .  V      .     Q   .
  18.000    787.9338   1545.69  .         .         .   V     .     Q   .
  18.083    797.4051   1375.24  .         .         .   V     . Q       .
  18.167    806.8764   1375.24  .         .         .   V     . Q       .
  18.250    816.3477   1375.24  .         .         .   V     . Q       .
  18.333    825.0043   1256.93  .         .         .    V   Q.         .
  18.417    833.6608   1256.93  .         .         .    V   Q.         .
  18.500    842.3174   1256.93  .         .         .    V   Q.         .
  18.583    850.2739   1155.29  .         .         .    V Q  .         .
  18.667    858.2305   1155.29  .         .         .     VQ  .         .
  18.750    866.1870   1155.29  .         .         .     VQ  .         .
  18.833    873.4692   1057.37  .         .         .   Q V   .         .
  18.917    880.7513   1057.37  .         .         .   Q V   .         .
  19.000    888.0335   1057.37  .         .         .   Q  V  .         .

******************************************************************************
  FLOW PROCESS FROM NODE     8.14 TO NODE     8.15 IS CODE =  52
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==============================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   45.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3270.00
          DOWNSTREAM ELEVATION =    3255.00
          CHANNEL LENGTH(FT) =    1000.00     MANNING'S FACTOR =  .032
          CONSTANT LOSS RATE(CFS) =     .00

        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  1647.11
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  1226.63
          CHANNEL NORMAL VELOCITY FOR Q =  1226.63 CFS =   9.43 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .847
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .992

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	631.7	623.1	623.1
14.167	631.7	631.7	631.7
14.250	631.7	631.7	631.7
14.333	674.7	661.6	661.6
14.417	674.7	674.6	674.6
14.500	674.7	674.7	674.7
14.583	730.1	713.2	713.2
14.667	730.1	730.0	730.0
14.750	730.1	730.1	730.1
14.833	804.8	782.0	782.0
14.917	804.8	804.6	804.6
15.000	804.8	804.8	804.8
15.083	893.5	866.5	866.5
15.167	893.5	893.3	893.3
15.250	893.5	893.5	893.5
15.333	975.3	950.3	950.3
15.417	975.3	975.1	975.1
15.500	975.3	975.3	975.3
15.583	1045.4	1024.0	1024.0
15.667	1045.4	1045.2	1045.2
15.750	1045.4	1045.4	1045.4
15.833	1117.6	1095.6	1095.6
15.917	1117.6	1117.4	1117.4
16.000	1117.6	1117.6	1117.6
16.083	1218.9	1188.0	1188.0
16.167	1218.9	1218.6	1218.6
16.250	1218.9	1218.9	1218.9
16.333	1323.7	1291.7	1291.7
16.417	1323.7	1323.4	1323.4
16.500	1323.7	1323.7	1323.7
16.583	1429.9	1397.5	1397.5
16.667	1429.9	1429.6	1429.6
16.750	1429.9	1429.9	1429.9
16.833	1570.0	1527.2	1527.2
16.917	1570.0	1569.6	1569.6
17.000	1570.0	1570.0	1570.0
17.083	1647.1	1623.6	1623.6
17.167	1647.1	1646.9	1646.9
17.250	1647.1	1647.1	1647.1
17.333	1640.9	1642.8	1642.8
17.417	1640.9	1640.9	1640.9
17.500	1640.9	1640.9	1640.9
17.583	1622.7	1628.3	1628.3
17.667	1622.7	1622.7	1622.7
17.750	1622.7	1622.7	1622.7
17.833	1545.7	1569.2	1569.2
17.917	1545.7	1545.9	1545.9
18.000	1545.7	1545.7	1545.7
18.083	1375.2	1427.2	1427.2
18.167	1375.2	1375.7	1375.7
18.250	1375.2	1375.2	1375.2
18.333	1256.9	1293.0	1293.0
18.417	1256.9	1257.2	1257.2
18.500	1256.9	1256.9	1256.9
18.583	1155.3	1186.3	1186.3
18.667	1155.3	1155.5	1155.5
18.750	1155.3	1155.3	1155.3
18.833	1057.4	1087.2	1087.2
18.917	1057.4	1057.6	1057.6
19.000	1057.4	1057.4	1057.4

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 1312.522 AF
OUTFLOW VOLUME = 1312.523 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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

          F L O O D    R O U T I N G    A N A L Y S I S
    USING ORANGE/SAN BERNARDINO COUNTY UNIT-HYDROGRAPH (1986 MANUAL)
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                             *
*                HYDROGRAPH AT NODE 8.15 ROUTED TO 8.16                 *
*                                                                       *
 *************************************************************************

  FILE NAME: HYD815.INP
  TIME/DATE OF STUDY: 11:24   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.15 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    5052.100 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    1.830 HOURS
         VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .500
         VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .350
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =    .236
         LOW LOSS FRACTION =  .269
         *HYDROGRAPH MODEL #3 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  15.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  13.661


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


==========================================================================
                    UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
        1                1.296               263.853
        2                4.417               635.652
        3                9.084               950.580
        4               16.267              1462.911
        5               25.270              1833.642
        6               34.117              1801.746
        7               42.583              1724.236
        8               50.905              1694.845
        9               56.556              1150.845
       10               60.887               882.198
       11               64.437               722.897
       12               67.344               591.976
       13               69.827               505.774
       14               71.964               435.308
       15               73.957               405.825
       16               75.712               357.457
       17               77.365               336.603
       18               78.827               297.857
       19               80.209               281.377
       20               81.437               250.152
       21               82.594               235.541
       22               83.650               215.046
```

23	84.612	195.908
24	85.492	179.314
25	86.315	167.513
26	87.099	159.744
27	87.775	137.656
28	88.419	131.123
29	89.044	127.381
30	89.626	118.512
31	90.097	95.858
32	90.561	94.597
33	91.025	94.570
34	91.475	91.506
35	91.912	89.053
36	92.349	89.000
37	92.778	87.375
38	93.133	72.233
39	93.470	68.705
40	93.807	68.727
41	94.136	66.937
42	94.442	62.307
43	94.747	62.088
44	95.052	62.046
45	95.330	56.601
46	95.588	52.634
47	95.846	52.591
48	96.102	52.033
49	96.320	44.421
50	96.532	43.140
51	96.743	43.111
52	96.947	41.490
53	97.132	37.733
54	97.317	37.530
55	97.501	37.557
56	97.693	39.189
57	97.892	40.354
58	98.090	40.325
59	98.279	38.693
60	98.364	17.247
61	98.433	13.919
62	98.501	13.888
63	98.569	13.947
64	98.637	13.890
65	98.706	13.918
66	98.774	13.860
67	98.842	13.977
68	98.911	13.918
69	98.979	13.860
70	99.047	13.919
71	99.115	13.918
72	99.184	13.977
73	99.252	13.860
74	99.309	11.531
75	99.342	6.754
76	99.374	6.580
77	99.406	6.523
78	99.438	6.521
79	99.471	6.582
80	99.504	6.697
81	99.536	6.580
82	99.568	6.582
83	99.600	6.580
84	99.633	6.582
85	99.665	6.580
86	99.697	6.582
87	99.730	6.580
88	99.762	6.582
89	99.794	6.580
90	99.827	6.582
91	99.859	6.580
92	99.891	6.582
93	99.924	6.580
94	99.956	6.582
95	99.988	6.580
96	100.000	2.399

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.19
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.37

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 501.7931
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1417.3060

```
                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      450.0     900.0     1350.0    1800.0
  14.083    432.4240    679.17  .        . V  Q    .         .         .
  14.167    437.1015    679.17  .        . V  Q    .         .         .
  14.250    441.7790    679.17  .        . V  Q    .         .         .
  14.333    446.7703    724.74  .        . V   Q   .         .         .
  14.417    451.7616    724.74  .        . V   Q   .         .         .
  14.500    456.7529    724.74  .        . V   Q   .         .         .
  14.583    462.1504    783.71  .        .  V   Q  .         .         .
  14.667    467.5478    783.71  .        .  V   Q  .         .         .
  14.750    472.9452    783.71  .        .  V   Q  .         .         .
  14.833    478.8851    862.47  .        .  V    Q .         .         .
  14.917    484.8250    862.47  .        .  V    Q.         .         .
  15.000    490.7649    862.47  .        .  V    Q.         .         .
  15.083    497.3535    956.67  .        .   V    .Q        .         .
  15.167    503.9422    956.67  .        .   V    .Q        .         .
  15.250    510.5308    956.67  .        .   V    .Q        .         .
  15.333    517.7226   1044.24  .        .   V     .  Q     .         .
  15.417    524.9144   1044.24  .        .   V     .  Q     .         .
  15.500    532.1061   1044.24  .        .    V    .  Q     .         .
  15.583    539.8109   1118.74  .        .    V    .   Q    .         .
  15.667    547.5157   1118.74  .        .    V    .   Q    .         .
  15.750    555.2205   1118.74  .        .    V    .   Q    .         .
  15.833    563.4728   1198.24  .        .    V    .    Q   .         .
  15.917    571.7251   1198.24  .        .     V   .    Q   .         .
  16.000    579.9774   1198.24  .        .     V   .    Q   .         .
  16.083    588.9869   1308.17  .        .     V   .     Q. .         .
  16.167    597.9963   1308.17  .        .     V   .     Q. .         .
  16.250    607.0058   1308.17  .        .      V  .     Q. .         .
  16.333    616.7845   1419.87  .        .      V  .      .Q.         .
  16.417    626.5632   1419.87  .        .      V  .      .Q.         .
  16.500    636.3419   1419.87  .        .      V  .      .Q.         .
  16.583    646.8842   1530.74  .        .       V .       .  Q       .
  16.667    657.4265   1530.74  .        .       V .       .  Q       .
  16.750    667.9688   1530.74  .        .       V .       .  Q       .
  16.833    679.5349   1679.41  .        .        V.       .   Q      .
  16.917    691.1011   1679.41  .        .        V.       .   Q      .
  17.000    702.6672   1679.41  .        .        V.       .   Q      .
  17.083    714.8238   1765.13  .        .         V       .    Q     .
  17.167    726.9803   1765.13  .        .         V       .    Q     .
  17.250    739.1369   1765.13  .        .         V       .    Q     .
  17.333    751.2674   1761.35  .        .         .V      .    Q     .
  17.417    763.3979   1761.35  .        .         .V      .    Q     .
  17.500    775.5284   1761.35  .        .         .V      .    Q     .
  17.583    787.5154   1740.53  .        .          . V    .     Q    .
  17.667    799.5025   1740.53  .        .          . V    .     Q    .
  17.750    811.4896   1740.53  .        .          . V    .     Q    .
  17.833    823.0245   1674.87  .        .          .  V   .      Q   .
  17.917    834.5594   1674.87  .        .          .  V   .      Q   .
  18.000    846.0943   1674.87  .        .          .  V   .      Q   .
  18.083    856.3649   1491.29  .        .          .   V  .       Q  .
  18.167    866.6354   1491.29  .        .          .   V  .       Q  .
  18.250    876.9060   1491.29  .        .          .   V  .       Q  .
  18.333    886.2961   1363.45  .        .          .    V .        Q .
  18.417    895.6863   1363.45  .        .          .    V .        Q .
  18.500    905.0764   1363.45  .        .          .    V .        Q .
  18.583    913.7082   1253.33  .        .          .    V Q        . .
  18.667    922.3400   1253.33  .        .          .    VQ         . .
  18.750    930.9717   1253.33  .        .          .    VQ         . .
  18.833    938.8824   1148.64  .        .          .    QV         . .
  18.917    946.7932   1148.64  .        .          .    QV         . .
  19.000    954.7039   1148.64  .        .          .    QV         . .

**************************************************************************
 FLOW PROCESS FROM NODE     8.15 TO NODE     8.16 IS CODE =  52
--------------------------------------------------------------------------
 >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   45.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3255.00
          DOWNSTREAM ELEVATION =    3110.00
          CHANNEL LENGTH(FT) =    9800.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =     .00

        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  1765.13
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  1320.82
          CHANNEL NORMAL VELOCITY FOR Q =  1320.82 CFS =  10.09 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .856
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .671

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	679.2	644.0	644.0
14.167	679.2	647.4	647.4
14.250	679.2	653.2	653.2
14.333	724.7	670.6	670.6
14.417	724.7	676.4	676.4
14.500	724.7	685.2	685.2
14.583	783.7	711.7	711.7
14.667	783.7	720.5	720.5
14.750	783.7	732.4	732.4
14.833	862.5	766.8	766.8
14.917	862.5	778.1	778.1
15.000	862.5	794.0	794.0
15.083	956.7	839.9	839.9
15.167	956.7	855.0	855.0
15.250	956.7	874.5	874.5
15.333	1044.2	929.6	929.6
15.417	1044.2	947.8	947.8
15.500	1044.2	967.2	967.2
15.583	1118.7	1018.9	1018.9
15.667	1118.7	1035.9	1035.9
15.750	1118.7	1052.9	1052.9
15.833	1198.2	1097.1	1097.1
15.917	1198.2	1111.6	1111.6
16.000	1198.2	1128.6	1128.6
16.083	1308.2	1175.3	1175.3
16.167	1308.2	1190.7	1190.7
16.250	1308.2	1212.6	1212.6
16.333	1419.9	1276.7	1276.7
16.417	1419.9	1297.8	1297.8
16.500	1419.9	1321.9	1321.9
16.583	1530.7	1387.6	1387.6
16.667	1530.7	1409.3	1409.3
16.750	1530.7	1433.4	1433.4
16.833	1679.4	1498.7	1498.7
16.917	1679.4	1520.2	1520.2
17.000	1679.4	1550.1	1550.1
17.083	1765.1	1636.8	1636.8
17.167	1765.1	1665.4	1665.4
17.250	1765.1	1687.9	1687.9
17.333	1761.3	1739.7	1739.7
17.417	1761.3	1756.8	1756.8
17.500	1761.3	1761.8	1761.8
17.583	1740.5	1761.5	1761.5
17.667	1740.5	1761.4	1761.4
17.750	1740.5	1758.2	1758.2
17.833	1674.9	1746.3	1746.3
17.917	1674.9	1742.4	1742.4
18.000	1674.9	1731.1	1731.1
18.083	1491.3	1693.4	1693.4
18.167	1491.3	1681.0	1681.0
18.250	1491.3	1648.7	1648.7
18.333	1363.4	1543.1	1543.1
18.417	1363.4	1508.3	1508.3
18.500	1363.4	1477.3	1477.3
18.583	1253.3	1400.9	1400.9
18.667	1253.3	1375.8	1375.8
18.750	1253.3	1350.6	1350.6
18.833	1148.6	1285.4	1285.4
18.917	1148.6	1263.9	1263.9
19.000	1148.6	1240.7	1240.7

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 1417.308 AF
OUTFLOW VOLUME = 1417.307 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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**************************************************************************

          F L O O D   R O U T I N G   A N A L Y S I S
    USING ORANGE/SAN BERNARDINO COUNTY UNIT-HYDROGRAPH (1986 MANUAL)
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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*                 HYDROGRAPH AT NODE 8.16 ROUTED TO 8.17                 *
*                                                                        *
 **************************************************************************

  FILE NAME: HYD816.INP
  TIME/DATE OF STUDY: 11:27   6/29/1992

**************************************************************************
  FLOW PROCESS FROM NODE      8.00 TO NODE      8.16 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    5564.100 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    2.100 HOURS
         VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .500
         VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .350
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .228
         LOW LOSS FRACTION =  .262
         *HYDROGRAPH MODEL #4 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  15.873


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                    UNIT HYDROGRAPH DETERMINATION
--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
          1               1.508              253.606
          2               5.436              660.908
          3              11.703             1054.174
          4              21.257             1607.304
          5              31.800             1773.675
          6              41.635             1654.492
          7              51.207             1610.201
          8              57.576             1071.445
          9              62.265              788.783
         10              66.078              641.555
         11              69.102              508.618
         12              71.686              434.804
         13              73.996              388.535
         14              76.026              341.489
         15              77.887              313.135
         16              79.550              279.825
         17              81.037              250.055
         18              82.409              230.887
         19              83.644              207.668
         20              84.750              186.121
         21              85.762              170.150
         22              86.697              157.342
```

23	87.543	142.395
24	88.294	126.264
25	89.023	122.709
26	89.688	111.852
27	90.232	91.413
28	90.771	90.768
29	91.304	89.676
30	91.814	85.763
31	92.322	85.470
32	92.815	82.983
33	93.221	68.164
34	93.612	65.902
35	94.002	65.475
36	94.363	60.856
37	94.717	59.458
38	95.069	59.303
39	95.386	53.286
40	95.686	50.435
41	95.985	50.385
42	96.260	46.285
43	96.507	41.403
44	96.753	41.375
45	96.986	39.251
46	97.200	36.033
47	97.414	36.055
48	97.633	36.779
49	97.863	38.622
50	98.093	38.704
51	98.301	34.981
52	98.387	14.615
53	98.467	13.330
54	98.546	13.352
55	98.626	13.393
56	98.705	13.330
57	98.784	13.330
58	98.864	13.372
59	98.943	13.331
60	99.022	13.372
61	99.102	13.330
62	99.181	13.372
63	99.260	13.330
64	99.319	9.853
65	99.356	6.252
66	99.393	6.293
67	99.431	6.293
68	99.468	6.251
69	99.507	6.501
70	99.544	6.251
71	99.581	6.252
72	99.618	6.251
73	99.655	6.252
74	99.692	6.251
75	99.730	6.252
76	99.767	6.251
77	99.804	6.252
78	99.841	6.251
79	99.878	6.252
80	99.915	6.251
81	99.953	6.252
82	99.990	6.251
83	100.000	1.725

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.17
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.39

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 543.9915
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1569.5920

```
================================================================================

                    2 4 - H O U R    S T O R M
                  R U N O F F    H Y D R O G R A P H

================================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      475.0     950.0    1425.0    1900.0
--------------------------------------------------------------------------------
  14.083    460.4024    733.82  .        .V   Q    .         .         .
  14.167    465.4563    733.82  .        .V   Q    .         .         .
  14.250    470.5101    733.82  .        .V   Q    .         .         .
  14.333    475.5639    733.82  .        . V  Q    .         .         .
  14.417    481.0545    797.24  .        . V   Q   .         .         .
  14.500    486.5451    797.24  .        . V   Q   .         .         .
  14.583    492.0357    797.24  .        . V   Q   .         .         .
  14.667    497.5263    797.24  .        . V   Q   .         .         .
  14.750    503.6143    883.98  .        . V     Q .         .         .
  14.833    509.7024    883.98  .        . V     Q .         .         .
  14.917    515.7903    883.98  .        .  V    Q .         .         .
  15.000    521.8784    883.98  .        .  V    Q .         .         .
  15.083    528.7762   1001.57  .        .  V     .Q         .         .
  15.167    535.6741   1001.57  .        .  V     .Q         .         .
  15.250    542.5720   1001.57  .        .  V     .Q         .         .
  15.333    549.4699   1001.57  .        .   V    .Q         .         .
  15.417    557.1627   1116.99  .        .   V    .  Q       .         .
  15.500    564.8555   1116.99  .        .   V    .  Q       .         .
  15.583    572.5483   1116.99  .        .   V    .  Q       .         .
  15.667    580.2411   1116.99  .        .   V    .  Q       .         .
  15.750    588.6820   1225.62  .        .    V   .    Q     .         .
  15.833    597.1229   1225.62  .        .    V   .    Q     .         .
  15.917    605.5637   1225.62  .        .    V   .    Q     .         .
  16.000    614.0046   1225.62  .        .    V   .    Q     .         .
  16.083    623.5005   1378.82  .        .    V   .      Q.  .         .
  16.167    632.9965   1378.82  .        .     V  .      Q.  .         .
  16.250    642.4925   1378.82  .        .     V  .      Q.  .         .
  16.333    651.9885   1378.82  .        .     V  .      Q.  .         .
  16.417    662.4515   1519.23  .        .     V  .       .Q .         .
  16.500    672.9145   1519.23  .        .      V .       .Q .         .
  16.583    683.3775   1519.23  .        .      V .       .Q .         .
  16.667    693.8405   1519.23  .        .      V .       .Q .         .
  16.750    705.2667   1659.09  .        .      V .       .  Q         .
  16.833    716.6929   1659.09  .        .       V.       .  Q         .
  16.917    728.1191   1659.09  .        .       V.       .  Q         .
  17.000    739.5453   1659.09  .        .       V.       .  Q         .
  17.083    751.9521   1801.46  .        .        V.      .    Q       .
  17.167    764.3588   1801.46  .        .        V.      .    Q       .
  17.250    776.7656   1801.46  .        .        V.      .    Q       .
  17.333    789.1723   1801.46  .        .         V      .    Q       .
  17.417    801.7416   1825.06  .        .         V      .     Q       .
  17.500    814.3110   1825.06  .        .         V      .     Q       .
  17.583    826.8803   1825.06  .        .          V     .     Q       .
  17.667    839.4496   1825.06  .        .          V     .     Q       .
  17.750    851.7715   1789.13  .        .         .V     .    Q        .
  17.833    864.0933   1789.13  .        .         . V    .    Q        .
  17.917    876.4152   1789.13  .        .         . V    .    Q        .
  18.000    888.7370   1789.13  .        .         . V    .    Q        .
  18.083    900.4413   1699.46  .        .         . V    .  Q          .
  18.167    912.1456   1699.46  .        .         .  V   .  Q          .
  18.250    923.8499   1699.46  .        .         .  V   .  Q          .
  18.333    935.5541   1699.46  .        .         .  V   .  Q          .
  18.417    945.9139   1504.24  .        .         .   V  ..Q          .
  18.500    956.2737   1504.24  .        .         .   V  ..Q          .
  18.583    966.6335   1504.24  .        .         .   V  ..Q          .
  18.667    976.9933   1504.24  .        .         .   V  ..Q          .
  18.750    986.3088   1352.60  .        .         .    V Q .          .
  18.833    995.6242   1352.60  .        .         .    V Q .          .
  18.917   1004.9400   1352.60  .        .         .    V Q .          .
  19.000   1014.2550   1352.60  .        .         .    V Q .          .

********************************************************************************
 FLOW PROCESS FROM NODE     8.16 TO NODE     8.17 IS CODE =  52
--------------------------------------------------------------------------------
 >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
================================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   45.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    3110.00
          DOWNSTREAM ELEVATION =    2990.00
          CHANNEL LENGTH(FT) =    9000.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =     .00

        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  1825.06
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  1365.00
          CHANNEL NORMAL VELOCITY FOR Q =  1365.00 CFS =   9.80 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .852
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .676

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	733.8	692.9	692.9
14.167	733.8	694.1	694.1
14.250	733.8	704.9	704.9
14.333	733.8	724.4	724.4
14.417	797.2	730.8	730.8
14.500	797.2	732.8	732.8
14.583	797.2	750.3	750.3
14.667	797.2	782.0	782.0
14.750	884.0	792.3	792.3
14.833	884.0	795.6	795.6
14.917	884.0	819.7	819.7
15.000	884.0	863.1	863.1
15.083	1001.6	877.2	877.2
15.167	1001.6	881.8	881.8
15.250	1001.6	914.4	914.4
15.333	1001.6	973.3	973.3
15.417	1117.0	992.4	992.4
15.500	1117.0	998.6	998.6
15.583	1117.0	1031.2	1031.2
15.667	1117.0	1089.2	1089.2
15.750	1225.6	1108.0	1108.0
15.833	1225.6	1114.1	1114.1
15.917	1225.6	1144.8	1144.8
16.000	1225.6	1199.4	1199.4
16.083	1378.8	1217.1	1217.1
16.167	1378.8	1222.9	1222.9
16.250	1378.8	1265.3	1265.3
16.333	1378.8	1342.0	1342.0
16.417	1519.2	1366.9	1366.9
16.500	1519.2	1374.9	1374.9
16.583	1519.2	1414.8	1414.8
16.667	1519.2	1485.4	1485.4
16.750	1659.1	1508.2	1508.2
16.833	1659.1	1515.7	1515.7
16.917	1659.1	1555.1	1555.1
17.000	1659.1	1625.4	1625.4
17.083	1801.5	1648.2	1648.2
17.167	1801.5	1655.5	1655.5
17.250	1801.5	1695.7	1695.7
17.333	1801.5	1767.2	1767.2
17.417	1825.1	1790.3	1790.3
17.500	1825.1	1797.9	1797.9
17.583	1825.1	1806.5	1806.5
17.667	1825.1	1819.1	1819.1
17.750	1789.1	1823.1	1823.1
17.833	1789.1	1824.4	1824.4
17.917	1789.1	1815.3	1815.3
18.000	1789.1	1797.6	1797.6
18.083	1699.5	1791.9	1791.9
18.167	1699.5	1790.0	1790.0
18.250	1699.5	1765.7	1765.7
18.333	1699.5	1720.9	1720.9
18.417	1504.2	1706.4	1706.4
18.500	1504.2	1701.7	1701.7
18.583	1504.2	1648.5	1648.5
18.667	1504.2	1551.0	1551.0
18.750	1352.6	1519.4	1519.4
18.833	1352.6	1509.2	1509.2
18.917	1352.6	1465.7	1465.7
19.000	1352.6	1389.3	1389.3

==========

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 1569.593 AF
OUTFLOW VOLUME = 1569.593 AF
LOSS VOLUME = .000 AF

==========

END OF FLOOD ROUTING ANALYSIS

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

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                       Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                            *
*                HYDROGRAPH AT NODE 8.17 ROUTED TO 7.11                *
*                                                                      *
 ************************************************************************

  FILE NAME: HYD817.INP
  TIME/DATE OF STUDY: 11:32   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.17 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =    7045.300 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    2.355 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .150
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .500
        VALLEY(UNDEVELOPED/DESERT):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .350
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .206
        LOW LOSS FRACTION =  .239
        *HYDROGRAPH MODEL #4 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  14.154


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 14.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
         1                1.342               285.923
         2                4.635               701.458
         3                9.624              1062.571
         4               17.345              1644.807
         5               26.759              2005.151
         6               35.773              1920.056
         7               44.702              1902.048
         8               52.615              1685.555
         9               58.017              1150.711
        10               62.148               879.882
        11               65.624               740.404
        12               68.397               590.795
        13               70.834               518.899
        14               72.946               449.899
        15               74.904               417.259
        16               76.655               372.958
        17               78.247               339.097
        18               79.721               313.865
        19               81.032               279.366
        20               82.267               263.079
        21               83.376               236.079
        22               84.411               220.460
        23               85.328               195.481
```

24	86.194	184.359
25	87.012	174.295
26	87.723	151.520
27	88.391	142.216
28	89.040	138.148
29	89.640	127.905
30	90.127	103.692
31	90.608	102.519
32	91.089	102.345
33	91.551	98.420
34	92.003	96.457
35	92.456	96.480
36	92.886	91.406
37	93.245	76.672
38	93.600	75.530
39	93.954	75.501
40	94.288	70.968
41	94.608	68.334
42	94.929	68.357
43	95.241	66.408
44	95.511	57.541
45	95.765	54.003
46	96.018	53.914
47	96.252	49.812
48	96.471	46.737
49	96.691	46.737
50	96.906	45.835
51	97.100	41.309
52	97.291	40.692
53	97.482	40.663
54	97.680	42.219
55	97.885	43.719
56	98.090	43.719
57	98.286	41.602
58	98.369	17.829
59	98.440	15.107
60	98.511	15.049
61	98.582	15.109
62	98.652	15.049
63	98.723	15.049
64	98.794	15.167
65	98.865	14.990
66	98.936	15.107
67	99.006	15.050
68	99.077	15.107
69	99.148	15.050
70	99.219	15.107
71	99.287	14.579
72	99.328	8.759
73	99.361	7.053
74	99.395	7.113
75	99.428	7.113
76	99.462	7.113
77	99.495	7.172
78	99.533	7.937
79	99.566	7.172
80	99.600	7.172
81	99.634	7.172
82	99.667	7.172
83	99.701	7.172
84	99.735	7.172
85	99.768	7.172
86	99.802	7.172
87	99.836	7.172
88	99.869	7.172
89	99.903	7.172
90	99.937	7.172
91	99.970	7.172
92	100.000	6.338

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.07
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.49

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 627.9496
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 2048.2520

```
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      575.0    1150.0    1725.0    2300.0
--------------------------------------------------------------------------
  14.083    577.7601    926.89  .         .V    Q   .         .         .
  14.167    584.1436    926.89  .         .V    Q   .         .         .
  14.250    590.5272    926.89  .         .V    Q   .         .         .
  14.333    596.9107    926.89  .         .V    Q   .         .         .
  14.417    603.7915    999.09  .         .V     Q  .         .         .
  14.500    610.6723    999.09  .         .V     Q  .         .         .
  14.583    617.5531    999.09  .         . V    Q  .         .         .
  14.667    624.4339    999.09  .         . V    Q  .         .         .
  14.750    631.9781   1095.41  .         . V      Q.         .         .
  14.833    639.5223   1095.41  .         . V      Q.         .         .
  14.917    647.0665   1095.41  .         . V      Q.         .         .
  15.000    654.6107   1095.41  .         . V      Q.         .         .
  15.083    663.0576   1226.50  .         . V       .Q        .         .
  15.167    671.5046   1226.50  .         .  V      .Q        .         .
  15.250    679.9515   1226.50  .         .  V      .Q        .         .
  15.333    688.3985   1226.50  .         .  V      .Q        .         .
  15.417    697.7878   1363.34  .         .  V      .  Q      .         .
  15.500    707.1772   1363.34  .         .  V      .  Q      .         .
  15.583    716.5665   1363.34  .         .  V      .  Q      .         .
  15.667    725.9559   1363.34  .         .   V     .  Q      .         .
  15.750    736.2708   1497.73  .         .   V     .    Q    .         .
  15.833    746.5858   1497.73  .         .   V     .    Q    .         .
  15.917    756.9007   1497.73  .         .   V     .    Q    .         .
  16.000    767.2156   1497.73  .         .   V     .    Q    .         .
  16.083    778.8387   1687.67  .         .    V    .        Q.         .
  16.167    790.4617   1687.67  .         .    V    .        Q.         .
  16.250    802.0848   1687.67  .         .    V    .        Q.         .
  16.333    813.7078   1687.67  .         .    V    .        Q.         .
  16.417    826.5999   1871.93  .         .     V   .         . Q       .
  16.500    839.4919   1871.93  .         .     V   .         . Q       .
  16.583    852.3839   1871.93  .         .     V   .         . Q       .
  16.667    865.2759   1871.93  .         .     V   .         . Q       .
  16.750    879.2412   2027.76  .         .      V  .         .    Q    .
  16.833    893.2065   2027.76  .         .      V  .         .    Q    .
  16.917    907.1718   2027.76  .         .      V  .         .    Q    .
  17.000    921.1370   2027.76  .         .      V  .         .    Q    .
  17.083    936.3011   2201.82  .         .       V .         .       Q .
  17.167    951.4651   2201.82  .         .       V .         .       Q .
  17.250    966.6292   2201.82  .         .       V .         .       Q .
  17.333    981.7933   2201.82  .         .        V.         .       Q .
  17.417    997.4896   2279.10  .         .        V.         .        Q.
  17.500   1013.1860   2279.10  .         .        V.         .        Q.
  17.583   1028.8820   2279.10  .         .         V         .        Q.
  17.667   1044.5780   2279.10  .         .         V         .        Q.
  17.750   1060.0370   2244.55  .         .         V         .        Q.
  17.833   1075.4950   2244.55  .         .          V        .        Q.
  17.917   1090.9530   2244.55  .         .          V        .        Q.
  18.000   1106.4110   2244.55  .         .          V        .        Q.
  18.083   1121.4650   2185.78  .         .         .V        .       Q .
  18.167   1136.5190   2185.78  .         .         . V       .       Q .
  18.250   1151.5720   2185.78  .         .         . V       .       Q .
  18.333   1166.6260   2185.78  .         .         . V       .       Q .
  18.417   1180.6590   2037.61  .         .         .  V      .    Q    .
  18.500   1194.6920   2037.61  .         .         .  V      .    Q    .
  18.583   1208.7250   2037.61  .         .         .  V      .    Q    .
  18.667   1222.7590   2037.61  .         .         .  V      .    Q    .
  18.750   1235.3270   1824.90  .         .         .   V     .Q        .
  18.833   1247.8950   1824.90  .         .         .   V     .Q        .
  18.917   1260.4630   1824.90  .         .         .   V     .Q        .
  19.000   1273.0310   1824.90  .         .         .   V     .Q        .

**************************************************************************
  FLOW PROCESS FROM NODE     8.17 TO NODE     7.11 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).

        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   45.00     CHANNEL Z =  3.00
          UPSTREAM ELEVATION =    2990.00
          DOWNSTREAM ELEVATION =    2940.00
          CHANNEL LENGTH(FT) =    3900.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =     .00

        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  2279.10
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  1710.86
          CHANNEL NORMAL VELOCITY FOR Q =  1710.86 CFS =  10.44 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .860
```

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .847

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
14.083	926.9	879.6	879.6
14.167	926.9	916.9	916.9
14.250	926.9	925.4	925.4
14.333	926.9	926.7	926.7
14.417	999.1	926.9	926.9
14.500	999.1	983.7	983.7
14.583	999.1	996.7	996.7
14.667	999.1	998.7	998.7
14.750	1095.4	999.0	999.0
14.833	1095.4	1074.9	1074.9
14.917	1095.4	1092.3	1092.3
15.000	1095.4	1094.9	1094.9
15.083	1226.5	1095.3	1095.3
15.167	1226.5	1198.6	1198.6
15.250	1226.5	1222.2	1222.2
15.333	1226.5	1225.8	1225.8
15.417	1363.3	1226.4	1226.4
15.500	1363.3	1334.3	1334.3
15.583	1363.3	1358.9	1358.9
15.667	1363.3	1362.7	1362.7
15.750	1497.7	1363.2	1363.2
15.833	1497.7	1469.2	1469.2
15.917	1497.7	1493.4	1493.4
16.000	1497.7	1497.1	1497.1
16.083	1687.7	1497.6	1497.6
16.167	1687.7	1647.3	1647.3
16.250	1687.7	1681.5	1681.5
16.333	1687.7	1686.7	1686.7
16.417	1871.9	1687.5	1687.5
16.500	1871.9	1832.8	1832.8
16.583	1871.9	1865.9	1865.9
16.667	1871.9	1871.0	1871.0
16.750	2027.8	1871.8	1871.8
16.833	2027.8	1994.6	1994.6
16.917	2027.8	2022.7	2022.7
17.000	2027.8	2027.0	2027.0
17.083	2201.8	2027.6	2027.6
17.167	2201.8	2164.8	2164.8
17.250	2201.8	2196.2	2196.2
17.333	2201.8	2201.0	2201.0
17.417	2279.1	2201.7	2201.7
17.500	2279.1	2262.7	2262.7
17.583	2279.1	2276.6	2276.6
17.667	2279.1	2278.7	2278.7
17.750	2244.5	2279.0	2279.0
17.833	2244.5	2251.9	2251.9
17.917	2244.5	2245.7	2245.7
18.000	2244.5	2244.7	2244.7
18.083	2185.8	2244.6	2244.6
18.167	2185.8	2198.3	2198.3
18.250	2185.8	2187.7	2187.7
18.333	2185.8	2186.1	2186.1
18.417	2037.6	2185.8	2185.8
18.500	2037.6	2069.1	2069.1
18.583	2037.6	2042.4	2042.4
18.667	2037.6	2038.3	2038.3
18.750	1824.9	2037.7	2037.7
18.833	1824.9	1870.1	1870.1
18.917	1824.9	1831.8	1831.8
19.000	1824.9	1826.0	1826.0

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 2048.258 AF
OUTFLOW VOLUME = 2048.256 AF
LOSS VOLUME = .000 AF

END OF FLOOD ROUTING ANALYSIS

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

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                      Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                                                                        *
*      D E S I G N   H Y D R O G R A P H   A T   N O D E   1 . 2 0       *
*                                                                        *
 ************************************************************************

  FILE NAME: HYD117-1.INP
  TIME/DATE OF STUDY: 13:16   6/29/1992


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.17 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =   14484.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    2.306 HOURS
         VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .223
         LOW LOSS FRACTION =  .261
         *HYDROGRAPH MODEL #4 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  14.455


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 20.00


==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
     NUMBER          MEAN VALUES          ORDINATES(CFS)
--------------------------------------------------------------------------
         1                1.146               501.885
         2                3.950              1227.926
         3                8.439              1965.637
         4               15.502              3092.934
         5               24.206              3811.900
         6               33.447              4046.686
         7               44.591              4880.026
         8               54.767              4456.097
         9               61.906              3126.388
        10               67.470              2436.680
        11               71.844              1915.499
        12               75.257              1494.266
        13               78.000              1201.365
        14               80.353              1030.566
        15               82.302               853.408
        16               83.974               732.189
        17               85.403               625.988
        18               86.602               525.052
        19               87.661               463.727
        20               88.643               430.000
        21               89.545               394.926
        22               90.348               351.509
        23               91.098               328.453
```

24	91.783	299.977
25	92.363	254.225
26	92.857	216.351
27	93.325	204.658
28	93.766	192.998
29	94.107	149.658
30	94.418	136.100
31	94.729	136.093
32	95.032	132.552
33	95.321	126.638
34	95.610	126.625
35	95.893	123.935
36	96.122	100.394
37	96.341	96.031
38	96.561	96.001
39	96.770	91.718
40	96.968	86.563
41	97.165	86.479
42	97.359	84.999
43	97.532	75.497
44	97.700	73.877
45	97.869	73.840
46	98.015	64.084
47	98.138	53.790
48	98.261	53.814
49	98.382	52.718
50	98.491	48.044
51	98.600	47.456
52	98.708	47.453
53	98.821	49.377
54	98.936	50.620
55	99.052	50.620
56	99.153	44.295
57	99.192	16.922
58	99.228	15.826
59	99.264	15.800
60	99.300	15.917
61	99.336	15.740
62	99.372	15.856
63	99.409	15.800
64	99.445	15.856
65	99.481	15.800
66	99.517	15.856
67	99.553	15.796
68	99.589	15.800
69	99.625	15.860
70	99.655	13.017
71	99.672	7.571
72	99.690	7.517
73	99.706	7.397
74	99.723	7.454
75	99.741	7.514
76	99.759	7.928
77	99.776	7.514
78	99.793	7.517
79	99.810	7.514
80	99.827	7.514
81	99.845	7.517
82	99.862	7.514
83	99.879	7.514
84	99.896	7.514
85	99.913	7.514
86	99.930	7.517
87	99.948	7.514
88	99.965	7.514
89	99.982	7.517
90	99.999	7.514
91	100.000	.444

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.17
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.39

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 1409.0070
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 4092.8950

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==============================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==============================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

------------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.     1225.0    2450.0    3675.0    4900.0
------------------------------------------------------------------------------
  16.083   1622.8380   3442.59  .         .    V    .       Q .         .
  16.167   1646.5480   3442.59  .         .     V   .       Q .         .
  16.250   1670.2570   3442.59  .         .     V   .       Q .         .
  16.333   1693.9660   3442.59  .         .     V   .       Q .         .
  16.417   1720.4930   3851.59  .         .     V   .         .Q        .
  16.500   1747.0190   3851.59  .         .      V  .         .Q        .
  16.583   1773.5450   3851.59  .         .      V  .         .Q        .
  16.667   1800.0710   3851.59  .         .      V  .         .Q        .
  16.750   1829.1090   4216.37  .         .      V  .         .   Q     .
  16.833   1858.1480   4216.37  .         .       V .         .   Q     .
  16.917   1887.1860   4216.37  .         .       V .         .   Q     .
  17.000   1916.2250   4216.37  .         .       V .         .   Q     .
  17.083   1947.8200   4587.69  .         .        V.         .      Q  .
  17.167   1979.4160   4587.69  .         .        V.         .      Q  .
  17.250   2011.0120   4587.69  .         .        V.         .      Q  .
  17.333   2042.6080   4587.69  .         .        V.         .      Q  .
  17.417   2075.3080   4748.08  .         .         V         .       Q .
  17.500   2108.0080   4748.08  .         .         V         .       Q .
  17.583   2140.7080   4748.08  .         .         V         .       Q .
  17.667   2173.4080   4748.08  .         .          V        .       Q .
  17.750   2206.5030   4805.38  .         .         .V        .        Q.
  17.833   2239.5980   4805.38  .         .         .V        .        Q.
  17.917   2272.6930   4805.38  .         .         . V       .        Q.
  18.000   2305.7880   4805.38  .         .         . V       .        Q.
  18.083   2339.4250   4883.99  .         .         . V       .        Q.
  18.167   2373.0610   4883.99  .         .         .  V      .        Q.
  18.250   2406.6970   4883.99  .         .         .  V      .        Q.
  18.333   2440.3330   4883.99  .         .         .  V      .        Q.
  18.417   2472.1360   4617.83  .         .         .   V     .      Q  .
  18.500   2503.9400   4617.83  .         .         .   V     .      Q  .
  18.583   2535.7430   4617.83  .         .         .   V     .      Q  .
  18.667   2567.5460   4617.83  .         .         .    V    .      Q  .
  18.750   2596.0980   4145.68  .         .         .    V    .  Q      .
  18.833   2624.6490   4145.68  .         .         .    V    .  Q      .
  18.917   2653.2010   4145.68  .         .         .    V    .  Q      .
  19.000   2681.7520   4145.68  .         .         .     V   .  Q      .
  19.083   2707.3690   3719.51  .         .         .     V   Q         .
  19.167   2732.9850   3719.51  .         .         .     V   Q         .
  19.250   2758.6020   3719.51  .         .         .     V   Q         .
  19.333   2784.2180   3719.51  .         .         .      V  Q         .
  19.417   2807.1640   3331.77  .         .         .      Q  .         .
  19.500   2830.1100   3331.77  .         .         .      Q  .         .
  19.583   2853.0560   3331.77  .         .         .      Q  .         .
  19.667   2876.0020   3331.77  .         .         .      QV .         .
  19.750   2896.7950   3019.18  .         .         .   Q   V .         .
  19.833   2917.5890   3019.18  .         .         .   Q   V .         .
  19.917   2938.3820   3019.18  .         .         .   Q   V .         .
  20.000   2959.1750   3019.18  .         .         .   Q   V .         .

******************************************************************************
  FLOW PROCESS FROM NODE      2.00 TO NODE      1.17 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==============================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =     7823.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =     2.187 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .250
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .250
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .250
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =    .255
         LOW LOSS FRACTION =  .294
         *HYDROGRAPH MODEL #4 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=    .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  15.242
```

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	1.209	285.853
2	4.251	719.632
3	9.272	1187.657
4	17.064	1842.804
5	26.422	2213.554
6	36.429	2366.921
7	48.737	2911.023
8	57.886	2163.982
9	64.642	1598.042
10	69.864	1235.046
11	73.881	950.145
12	77.037	746.423
13	79.627	612.559
14	81.826	520.133
15	83.635	427.959
16	85.197	369.305
17	86.487	305.251
18	87.611	265.818
19	88.649	245.521
20	89.597	224.206
21	90.436	198.350
22	91.218	184.984
23	91.928	168.011
24	92.503	135.959
25	93.018	121.721
26	93.498	113.722
27	93.930	101.967
28	94.262	78.524
29	94.589	77.508
30	94.914	76.918
31	95.222	72.833
32	95.527	72.082
33	95.831	71.781
34	96.084	59.934
35	96.317	55.226
36	96.551	55.239
37	96.775	52.995
38	96.986	49.841
39	97.197	49.845
40	97.401	48.390
41	97.583	43.098
42	97.764	42.645
43	97.926	38.455
44	98.061	31.765
45	98.190	30.641
46	98.320	30.645
47	98.440	28.580
48	98.555	27.021
49	98.669	27.035
50	98.786	27.580
51	98.907	28.795
52	99.029	28.838
53	99.145	27.360
54	99.189	10.306
55	99.227	9.017
56	99.265	9.017
57	99.303	9.001
58	99.341	9.003
59	99.379	9.032
60	99.417	9.003
61	99.455	9.001
62	99.493	9.032
63	99.531	9.003
64	99.570	9.032
65	99.608	8.970
66	99.644	8.700
67	99.666	5.092
68	99.684	4.273
69	99.702	4.214
70	99.720	4.273
71	99.738	4.214
72	99.757	4.455
73	99.774	4.212
74	99.792	4.214
75	99.810	4.214
76	99.828	4.214
77	99.846	4.214
78	99.863	4.212
79	99.881	4.214
80	99.899	4.214
81	99.917	4.212
82	99.935	4.214
83	99.952	4.214
84	99.970	4.214
85	99.988	4.214
86	100.000	2.822

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        TOTAL STORM RAINFALL(INCHES) =  4.56
        TOTAL SOIL-LOSS(INCHES) =  1.32
        TOTAL EFFECTIVE RAINFALL(INCHES) =  3.24

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    TOTAL SOIL-LOSS VOLUME(ACRE-FEET) =     858.0712
    TOTAL STORM RUNOFF VOLUME(ACRE-FEET) =    2113.6280
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==========================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==========================================================================
                 HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      650.0    1300.0    1950.0    2600.0
--------------------------------------------------------------------------
  16.083    853.9476   1842.76  .         .     V   .       Q .         .
  16.167    866.6389   1842.76  .         .     V   .       Q .         .
  16.250    879.3301   1842.76  .         .     V   .       Q .         .
  16.333    892.0213   1842.76  .         .     V   .       Q .         .
  16.417    906.1456   2050.84  .         .      V  .         .Q        .
  16.500    920.2698   2050.84  .         .      V  .         .Q        .
  16.583    934.3941   2050.84  .         .      V  .         .Q        .
  16.667    948.5184   2050.84  .         .      V  .         .Q        .
  16.750    964.0115   2249.59  .         .       V .         .   Q     .
  16.833    979.5046   2249.59  .         .       V .         .   Q     .
  16.917    994.9977   2249.59  .         .       V .         .   Q     .
  17.000   1010.4910   2249.59  .         .        V.         .   Q     .
  17.083   1027.3140   2442.67  .         .        V.         .      Q  .
  17.167   1044.1360   2442.67  .         .        V.         .      Q  .
  17.250   1060.9590   2442.67  .         .         V         .      Q  .
  17.333   1077.7820   2442.67  .         .         V         .      Q  .
  17.417   1095.0470   2506.88  .         .         V         .       Q .
  17.500   1112.3120   2506.88  .         .          V        .       Q .
  17.583   1129.5770   2506.88  .         .          V        .       Q .
  17.667   1146.8420   2506.88  .         .          V        .       Q .
  17.750   1164.4480   2556.35  .         .         . V       .        Q.
  17.833   1182.0540   2556.35  .         .         . V       .        Q.
  17.917   1199.6590   2556.35  .         .         . V       .        Q.
  18.000   1217.2650   2556.35  .         .         .  V      .        Q.
  18.083   1235.0300   2579.41  .         .         .  V      .        Q.
  18.167   1252.7940   2579.41  .         .         .  V      .        Q.
  18.250   1270.5590   2579.41  .         .         .   V     .        Q.
  18.333   1288.3230   2579.41  .         .         .   V     .        Q.
  18.417   1304.4520   2341.87  .         .         .   V     .     Q   .
  18.500   1320.5800   2341.87  .         .         .   V     .     Q   .
  18.583   1336.7090   2341.87  .         .         .    V    .     Q   .
  18.667   1352.8370   2341.87  .         .         .    V    .     Q   .
  18.750   1367.3320   2104.64  .         .         .    V    . Q       .
  18.833   1381.8270   2104.64  .         .         .     V   . Q       .
  18.917   1396.3220   2104.64  .         .         .     V   . Q       .
  19.000   1410.8160   2104.64  .         .         .     V   . Q       .

******************************************************************************
 FLOW PROCESS FROM NODE     1.17 TO NODE     1.18 IS CODE =  52
--------------------------------------------------------------------------
 >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =    75.00     CHANNEL Z =  2.00
          UPSTREAM ELEVATION =     3070.00
          DOWNSTREAM ELEVATION =     2980.00
          CHANNEL LENGTH(FT) =     9400.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =      .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  7463.41
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  5634.23
          CHANNEL NORMAL VELOCITY FOR Q =  5634.23 CFS =  13.04 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .885

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .753


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW       (STREAM 1)
         (HRS)       (CFS)       (CFS)         (CFS)
         16.083       5285.4      4630.4        4630.4
         16.167       5285.4      4637.3        4637.3
         16.250       5285.4      5064.2        5064.2
         16.333       5285.4      5230.7        5230.7
         16.417       5902.4      5271.8        5271.8
         16.500       5902.4      5282.0        5282.0
         16.583       5902.4      5690.8        5690.8
         16.667       5902.4      5850.1        5850.1
         16.750       6466.0      5889.5        5889.5
         16.833       6466.0      5899.2        5899.2
         16.917       6466.0      6272.7        6272.7
         17.000       6466.0      6418.2        6418.2
         17.083       7030.4      6454.2        6454.2
         17.167       7030.4      6463.0        6463.0
```

17.250	7030.4	6836.8	6836.8
17.333	7030.4	6982.5	6982.5
17.417	7255.0	7018.5	7018.5
17.500	7255.0	7027.4	7027.4
17.583	7255.0	7177.5	7177.5
17.667	7255.0	7235.8	7235.8
17.750	7361.7	7250.2	7250.2
17.833	7361.7	7253.8	7253.8
17.917	7361.7	7325.0	7325.0
18.000	7361.7	7352.6	7352.6
18.083	7463.4	7359.5	7359.5
18.167	7463.4	7361.2	7361.2
18.250	7463.4	7428.5	7428.5
18.333	7463.4	7454.8	7454.8
18.417	6959.7	7461.3	7461.3
18.500	6959.7	7462.9	7462.9
18.583	6959.7	7131.6	7131.6
18.667	6959.7	7002.2	7002.2
18.750	6250.3	6970.2	6970.2
18.833	6250.3	6962.3	6962.3
18.917	6250.3	6493.3	6493.3
19.000	6250.3	6310.4	6310.4
19.083	5587.3	6265.2	6265.2
19.167	5587.3	6254.0	6254.0
19.250	5587.3	5814.7	5814.7
19.333	5587.3	5643.5	5643.5
19.417	5004.6	5601.2	5601.2
19.500	5004.6	5590.7	5590.7
19.583	5004.6	5204.5	5204.5
19.667	5004.6	5054.0	5054.0
19.750	4537.7	5016.8	5016.8
19.833	4537.7	5007.6	5007.6
19.917	4537.7	4697.9	4697.9
20.000	4537.7	4577.3	4577.3

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 6206.524 AF
OUTFLOW VOLUME = 6206.517 AF
LOSS VOLUME = .000 AF

FLOW PROCESS FROM NODE 3.00 TO NODE 4.13 IS CODE = 1

>>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 1646.000 ACRES
BASEFLOW = .000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 2.477 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .250
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .250
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .250
VALLEY(UNDEVELOPED/DESERT):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .250
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = .269
LOW LOSS FRACTION = .320
HYDROGRAPH MODEL #4 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= .63
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.09
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.34
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.93
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.43
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.76

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = .437
30-MINUTE FACTOR = .475
1-HOUR FACTOR = .498
3-HOUR FACTOR = .844
6-HOUR FACTOR = .931
24-HOUR FACTOR = .958

UNIT HYDROGRAPH TIME UNIT = 20.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 13.457

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	1.067	53.098
2	3.586	125.382
3	7.463	192.945
4	13.575	304.160
5	21.412	389.979
6	29.857	420.309
7	39.145	462.225

8	50.176	548.956
9	57.943	386.529
10	63.973	300.086
11	68.797	240.056
12	72.620	190.280
13	75.675	152.027
14	78.168	124.037
15	80.354	108.823
16	82.180	90.857
17	83.754	78.341
18	85.131	68.537
19	86.290	57.680
20	87.298	50.136
21	88.254	47.608
22	89.111	42.624
23	89.921	40.303
24	90.636	35.574
25	91.315	33.835
26	91.938	30.964
27	92.450	25.496
28	92.907	22.754
29	93.339	21.509
30	93.752	20.522
31	94.075	16.067
32	94.364	14.395
33	94.653	14.403
34	94.939	14.238
35	95.211	13.494
36	95.480	13.393
37	95.749	13.393
38	95.994	12.197
39	96.205	10.507
40	96.416	10.484
41	96.626	10.469
42	96.824	9.856
43	97.014	9.473
44	97.205	9.473
45	97.393	9.361
46	97.561	8.364
47	97.708	7.298
48	97.842	6.699
49	97.972	6.450
50	98.087	5.735
51	98.201	5.695
52	98.316	5.692
53	98.424	5.374
54	98.525	5.016
55	98.626	5.023
56	98.727	5.031
57	98.832	5.265
58	98.940	5.360
59	99.048	5.352
60	99.148	4.979
61	99.185	1.874
62	99.219	1.676
63	99.253	1.669
64	99.286	1.676
65	99.320	1.676
66	99.354	1.676
67	99.387	1.676
68	99.421	1.676
69	99.455	1.669
70	99.488	1.676
71	99.522	1.676
72	99.556	1.676
73	99.589	1.669
74	99.623	1.676
75	99.652	1.466
76	99.669	.830
77	99.685	.780
78	99.701	.795
79	99.716	.787
80	99.732	.795
81	99.748	.794
82	99.766	.888
83	99.782	.795
84	99.798	.794
85	99.814	.795
86	99.830	.794
87	99.846	.795
88	99.862	.794
89	99.878	.795
90	99.894	.794
91	99.910	.795
92	99.926	.794
93	99.942	.795
94	99.958	.794
95	99.974	.795
96	99.990	.794
97	100.000	.516

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.43
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.13

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 196.1181

TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 429.1509

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==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      125.0     250.0     375.0     500.0
--------------------------------------------------------------------------
  16.083    165.1356    342.50  .         .    V    .      Q  .         .
  16.167    167.4944    342.50  .         .    V    .      Q  .         .
  16.250    169.8532    342.50  .         .    V    .      Q  .         .
  16.333    172.2120    342.50  .         .     V   .      Q  .         .
  16.417    174.8730    386.37  .         .     V   .         Q         .
  16.500    177.5340    386.37  .         .     V   .         Q         .
  16.583    180.1950    386.37  .         .     V   .         Q         .
  16.667    182.8559    386.37  .         .      V  .         Q         .
  16.750    185.7710    423.27  .         .      V  .         .  Q      .
  16.833    188.6861    423.27  .         .      V  .         .  Q      .
  16.917    191.6012    423.27  .         .      V  .         .  Q      .
  17.000    194.5163    423.27  .         .       V .         .  Q      .
  17.083    197.6962    461.72  .         .       V .         .     Q   .
  17.167    200.8761    461.72  .         .       V .         .     Q   .
  17.250    204.0560    461.72  .         .        V.         .     Q   .
  17.333    207.2359    461.72  .         .        V.         .     Q   .
  17.417    210.5805    485.64  .         .        V.         .       Q .
  17.500    213.9251    485.64  .         .        V.         .       Q .
  17.583    217.2697    485.64  .         .         V         .       Q .
  17.667    220.6142    485.64  .         .         V         .       Q .
  17.750    223.9768    488.24  .         .         V         .        Q.
  17.833    227.3393    488.24  .         .          V        .        Q.
  17.917    230.7018    488.24  .         .          V        .        Q.
  18.000    234.0644    488.24  .         .          V        .        Q.
  18.083    237.4801    495.97  .         .         . V       .        Q.
  18.167    240.8959    495.97  .         .         . V       .        Q.
  18.250    244.3117    495.97  .         .         . V       .        Q.
  18.333    247.7275    495.97  .         .         .  V      .        Q.
  18.417    251.1317    494.29  .         .         .  V      .        Q.
  18.500    254.5359    494.29  .         .         .  V      .        Q.
  18.583    257.9401    494.29  .         .         .   V     .        Q.
  18.667    261.3443    494.29  .         .         .   V     .        Q.
  18.750    264.4173    446.21  .         .         .   V     .    Q    .
  18.833    267.4904    446.21  .         .         .   V     .    Q    .
  18.917    270.5634    446.21  .         .         .    V    .    Q    .
  19.000    273.6365    446.21  .         .         .    V    .    Q    .

******************************************************************************
  FLOW PROCESS FROM NODE     4.00 TO NODE     4.13 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #2)

         WATERSHED AREA =    2605.000 ACRES
         BASEFLOW =    .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    2.528 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .250
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .268
         LOW LOSS FRACTION =  .316
         *HYDROGRAPH MODEL #4 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  20.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  13.186


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 17.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

==========================================================================
                      UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
```

NUMBER	MEAN VALUES	ORDINATES(CFS)
1	1.045	82.339
2	3.491	192.599
3	7.217	293.481
4	13.069	460.880
5	20.652	597.246
6	28.913	650.646
7	37.769	697.485
8	48.694	860.474
9	56.752	634.681
10	62.929	486.507
11	67.866	388.808
12	71.814	310.974
13	74.959	247.724
14	77.537	203.029
15	79.738	173.326
16	81.653	150.815
17	83.244	125.344
18	84.679	112.991
19	85.875	94.248
20	86.913	81.709
21	87.870	75.388
22	88.745	68.905
23	89.567	64.786
24	90.299	57.650
25	90.989	54.328
26	91.621	49.794
27	92.190	44.761
28	92.654	36.537
29	93.096	34.824
30	93.508	32.491
31	93.890	30.024
32	94.180	22.881
33	94.464	22.332
34	94.747	22.324
35	95.023	21.740
36	95.287	20.778
37	95.551	20.778
38	95.814	20.747
39	96.040	17.770
40	96.243	16.018
41	96.447	16.024
42	96.649	15.942
43	96.837	14.846
44	97.021	14.460
45	97.205	14.461
46	97.385	14.198
47	97.546	12.652
48	97.703	12.372
49	97.845	11.222
50	97.972	9.998
51	98.085	8.896
52	98.197	8.826
53	98.309	8.825
54	98.416	8.401
55	98.515	7.787
56	98.613	7.781
57	98.712	7.788
58	98.815	8.096
59	98.921	8.306
60	99.026	8.301
61	99.129	8.125
62	99.177	3.797
63	99.210	2.595
64	99.243	2.596
65	99.276	2.596
66	99.309	2.601
67	99.342	2.590
68	99.375	2.590
69	99.408	2.613
70	99.441	2.578
71	99.474	2.614
72	99.507	2.590
73	99.540	2.590
74	99.573	2.601
75	99.606	2.590
76	99.639	2.590
77	99.660	1.703
78	99.676	1.213
79	99.691	1.225
80	99.707	1.225
81	99.722	1.225
82	99.738	1.213
83	99.754	1.271
84	99.769	1.214
85	99.785	1.213
86	99.800	1.213
87	99.816	1.214
88	99.831	1.213
89	99.846	1.213
90	99.862	1.213
91	99.877	1.213
92	99.893	1.214
93	99.908	1.213
94	99.923	1.213
95	99.939	1.214
96	99.954	1.213
97	99.970	1.213
98	99.985	1.213

99	100.000	1.182

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.41
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.15

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 306.6725
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 682.8922

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==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      200.0     400.0     600.0     800.0
--------------------------------------------------------------------------
  17.083    311.8956    724.58  .         .       V .         .     Q   .
  17.167    316.8858    724.58  .         .       V .         .     Q   .
  17.250    321.8761    724.58  .         .       V .         .     Q   .
  17.333    326.8663    724.58  .         .        V.         .     Q   .
  17.417    332.1335    764.80  .         .        V.         .       Q .
  17.500    337.4007    764.80  .         .        V.         .       Q .
  17.583    342.6678    764.80  .         .         V         .       Q .
  17.667    347.9350    764.80  .         .         V         .       Q .
  17.750    353.2365    769.78  .         .         V         .       Q .
  17.833    358.5381    769.78  .         .          V        .       Q .
  17.917    363.8396    769.78  .         .          V        .       Q .
  18.000    369.1411    769.78  .         .          V        .       Q .
  18.083    374.5100    779.57  .         .         .V        .       Q .
  18.167    379.8790    779.57  .         .         . V       .       Q .
  18.250    385.2480    779.57  .         .         . V       .       Q .
  18.333    390.6169    779.57  .         .         . V       .       Q .
  18.417    396.0168    784.07  .         .         .  V      .        Q.
  18.500    401.4167    784.07  .         .         .  V      .        Q.
  18.583    406.8166    784.07  .         .         .  V      .        Q.
  18.667    412.2165    784.07  .         .         .   V     .        Q.
  18.750    417.1380    714.60  .         .         .   V     .    Q    .
  18.833    422.0595    714.60  .         .         .   V     .    Q    .
  18.917    426.9810    714.60  .         .         .    V    .    Q    .
  19.000    431.9026    714.60  .         .         .    V    .    Q    .
  19.083    436.3790    649.97  .         .         .    V    . Q       .
  19.167    440.8554    649.97  .         .         .    V    . Q       .
  19.250    445.3318    649.97  .         .         .     V   . Q       .
  19.333    449.8082    649.97  .         .         .     V   . Q       .
  19.417    453.8316    584.20  .         .         .     V  Q.         .
  19.500    457.8550    584.20  .         .         .     V  Q.         .
  19.583    461.8784    584.20  .         .         .      V Q.         .
  19.667    465.9018    584.20  .         .         .      V Q.         .
  19.750    469.5534    530.21  .         .         .     QV  .         .
  19.833    473.2050    530.21  .         .         .     QV  .         .
  19.917    476.8567    530.21  .         .         .     QV  .         .
  20.000    480.5083    530.21  .         .         .     Q V .         .

**************************************************************************
 FLOW PROCESS FROM NODE     4.13 TO NODE     1.18 IS CODE =  52
--------------------------------------------------------------------------
 >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =    25.00      CHANNEL Z =  2.00
          UPSTREAM ELEVATION =     3095.00
          DOWNSTREAM ELEVATION =     2980.00
          CHANNEL LENGTH(FT) =    10000.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =      .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  1278.35
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   975.27
          CHANNEL NORMAL VELOCITY FOR Q =   975.27 CFS =   9.83 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .853

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .660


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 2)    FLOW      (STREAM 2)
         (HRS)       (CFS)       (CFS)        (CFS)
         17.083       1186.3      1077.6       1077.6
         17.167       1186.3      1084.4       1084.4
         17.250       1186.3      1093.8       1093.8
         17.333       1186.3      1154.9       1154.9
         17.417       1250.4      1175.6       1175.6
         17.500       1250.4      1182.7       1182.7
         17.583       1250.4      1189.7       1189.7
         17.667       1250.4      1229.8       1229.8
         17.750       1258.0      1243.4       1243.4
         17.833       1258.0      1248.0       1248.0
         17.917       1258.0      1250.2       1250.2
         18.000       1258.0      1255.4       1255.4
         18.083       1275.5      1257.1       1257.1
         18.167       1275.5      1257.7       1257.7
```

18.250	1275.5	1259.2	1259.2
18.333	1275.5	1270.0	1270.0
18.417	1278.4	1273.7	1273.7
18.500	1278.4	1274.9	1274.9
18.583	1278.4	1275.5	1275.5
18.667	1278.4	1277.4	1277.4
18.750	1160.8	1278.0	1278.0
18.833	1160.8	1278.2	1278.2
18.917	1160.8	1269.8	1269.8
19.000	1160.8	1197.9	1197.9
19.083	1055.2	1173.4	1173.4
19.167	1055.2	1165.1	1165.1
19.250	1055.2	1154.6	1154.6
19.333	1055.2	1089.0	1089.0
19.417	947.7	1066.6	1066.6
19.500	947.7	1059.1	1059.1
19.583	947.7	1048.7	1048.7
19.667	947.7	982.0	982.0
19.750	860.0	959.3	959.3
19.833	860.0	951.6	951.6
19.917	860.0	942.7	942.7
20.000	860.0	888.1	888.1

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 1112.046 AF
OUTFLOW VOLUME = 1112.043 AF
LOSS VOLUME = .000 AF

FLOW PROCESS FROM NODE 1.18 TO NODE 1.18 IS CODE = 7

>>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

FLOW PROCESS FROM NODE 1.18 TO NODE 1.18 IS CODE = 6

>>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 1.00 TO NODE 1.18 IS CODE = 1

>>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 933.000 ACRES
BASEFLOW = .000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = .748 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .300
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .300
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .100
VALLEY(UNDEVELOPED/DESERT):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .300
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = .199
LOW LOSS FRACTION = .247
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= .63
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.09
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.34
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.93
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.43
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.76

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = .437
30-MINUTE FACTOR = .475
1-HOUR FACTOR = .498
3-HOUR FACTOR = .844
6-HOUR FACTOR = .931
24-HOUR FACTOR = .958

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 11.141

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 17.00
MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	.815	91.946
2	2.584	199.656
3	5.113	285.281
4	8.893	426.520
5	14.011	577.579

6	20.205	698.826
7	27.083	776.137
8	34.764	866.659
9	44.719	1123.285
10	53.689	1012.114
11	60.155	729.552
12	65.444	596.767
13	69.855	497.799
14	73.431	403.464
15	76.362	330.697
16	78.797	274.742
17	80.835	229.954
18	82.700	210.422
19	84.264	176.548
20	85.595	150.151
21	86.820	138.212
22	87.855	116.726
23	88.747	100.757
24	89.536	89.026
25	90.306	86.875
26	90.993	77.510
27	91.653	74.417
28	92.252	67.569
29	92.805	62.383
30	93.336	59.971
31	93.827	55.433
32	94.251	47.770
33	94.597	39.082
34	94.933	37.954
35	95.241	34.680
36	95.539	33.626
37	95.775	26.701
38	95.969	21.877
39	96.163	21.867
40	96.357	21.884
41	96.548	21.546
42	96.727	20.234
43	96.906	20.132
44	97.084	20.107
45	97.262	20.072
46	97.410	16.718
47	97.545	15.180
48	97.679	15.156
49	97.813	15.180
50	97.945	14.809
51	98.065	13.531
52	98.183	13.396
53	98.302	13.424
54	98.421	13.379
55	98.528	12.138
56	98.629	11.386
57	98.730	11.414
58	98.816	9.653
59	98.888	8.162
60	98.950	6.900
61	99.010	6.793
62	99.070	6.780
63	99.130	6.782
64	99.187	6.452
65	99.243	6.279
66	99.298	6.274
67	99.354	6.274
68	99.410	6.335
69	99.468	6.519
70	99.526	6.524
71	99.584	6.527
72	99.641	6.504
73	99.668	2.996
74	99.679	1.254
75	99.690	1.258
76	99.701	1.259
77	99.712	1.258
78	99.723	1.254
79	99.735	1.259
80	99.746	1.258
81	99.757	1.250
82	99.768	1.266
83	99.779	1.250
84	99.790	1.266
85	99.801	1.250
86	99.813	1.258
87	99.824	1.259
88	99.835	1.258
89	99.846	1.259
90	99.857	1.234
91	99.864	.783
92	99.869	.602
93	99.874	.593
94	99.880	.594
95	99.885	.585
96	99.890	.593
97	99.895	.585
98	99.901	.617
99	99.906	.586
100	99.911	.585
101	99.916	.585
102	99.922	.585
103	99.927	.585
104	99.932	.586
105	99.937	.585

106	99.942	.585
107	99.948	.585
108	99.953	.585
109	99.958	.586
110	99.963	.585
111	99.968	.585
112	99.973	.585
113	99.979	.585
114	99.984	.586
115	99.989	.585
116	99.994	.585
117	99.999	.585
118	100.000	.067

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.07
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.49

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 83.4001
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 271.0061

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                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      150.0     300.0     450.0     600.0
--------------------------------------------------------------------------
  17.083    183.0895    439.51  .         .         .      V Q.         .
  17.167    185.9680    417.95  .         .         .      Q  .         .
  17.250    188.7023    397.03  .         .         .     QV  .         .
  17.333    191.3031    377.64  .         .         .    Q  V .         .
  17.417    193.7738    358.73  .         .         .  Q    V .         .
  17.500    196.1361    343.01  .         .         . Q     V .         .
  17.583    198.3596    322.86  .         .         .Q       V.         .
  17.667    200.4473    303.13  .         .         Q        V.         .
  17.750    202.3977    283.20  .         .       Q .        V.         .
  17.833    204.2063    262.61  .         .      Q  .         V         .
  17.917    205.9037    246.46  .         .     Q   .         V         .
  18.000    207.5087    233.04  .         .    Q    .         V         .
  18.083    209.0458    223.19  .         .   Q     .         V         .
  18.167    210.5126    212.97  .         .   Q     .         .V        .
  18.250    211.9243    204.98  .         .  Q      .         .V        .
  18.333    213.2811    197.01  .         .  Q      .         .V        .
  18.417    214.5923    190.39  .         . Q       .         .V        .
  18.500    215.8646    184.74  .         . Q       .         .V        .
  18.583    217.0979    179.08  .         .Q        .         . V       .
  18.667    218.2906    173.17  .         .Q        .         . V       .
  18.750    219.4451    167.63  .         .Q        .         . V       .
  18.833    220.5751    164.09  .         Q         .         . V       .
  18.917    221.6781    160.16  .         Q         .         . V       .
  19.000    222.7569    156.64  .         Q         .         . V       .
  19.083    223.8028    151.86  .         Q         .         .  V      .
  19.167    224.8214    147.90  .        Q.         .         .  V      .
  19.250    225.8211    145.16  .        Q.         .         .  V      .
  19.333    226.8031    142.59  .        Q.         .         .  V      .
  19.417    227.7670    139.95  .        Q.         .         .  V      .
  19.500    228.7115    137.15  .        Q.         .         .  V      .
  19.583    229.6395    134.74  .       Q .         .         .  V      .
  19.667    230.5519    132.48  .       Q .         .         .   V     .
  19.750    231.4492    130.29  .       Q .         .         .   V     .
  19.833    232.3270    127.46  .       Q .         .         .   V     .
  19.917    233.1891    125.18  .       Q .         .         .   V     .
  20.000    234.0387    123.35  .       Q .         .         .   V     .

**************************************************************************
  FLOW PROCESS FROM NODE      1.00 TO NODE      1.18 IS CODE =   1
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  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
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      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =      295.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =      .908 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .300
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .300
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .100
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .300
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =    .140
         LOW LOSS FRACTION =  .189
         *HYDROGRAPH MODEL #1 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=    .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =   5.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =   9.178


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

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                      UNIT HYDROGRAPH DETERMINATION

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    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
```

NUMBER	MEAN VALUES	ORDINATES(CFS)
1	.671	23.949
2	2.046	49.040
3	3.876	65.309
4	6.346	88.106
5	9.867	125.615
6	14.157	153.038
7	19.239	181.327
8	24.845	199.991
9	30.770	211.384
10	37.549	241.854
11	46.432	316.912
12	53.509	252.488
13	58.954	194.271
14	63.600	165.746
15	67.526	140.080
16	70.874	119.419
17	73.740	102.244
18	76.141	85.687
19	78.212	73.864
20	79.988	63.356
21	81.577	56.715
22	83.067	53.156
23	84.316	44.561
24	85.415	39.196
25	86.452	36.998
26	87.374	32.909
27	88.157	27.931
28	88.877	25.687
29	89.519	22.911
30	90.158	22.797
31	90.746	20.975
32	91.290	19.392
33	91.829	19.233
34	92.305	16.995
35	92.761	16.248
36	93.207	15.928
37	93.616	14.574
38	94.006	13.919
39	94.331	11.595
40	94.610	9.978
41	94.889	9.945
42	95.147	9.208
43	95.393	8.775
44	95.632	8.509
45	95.806	6.223
46	95.966	5.696
47	96.126	5.700
48	96.285	5.693
49	96.445	5.704
50	96.599	5.475
51	96.746	5.244
52	96.892	5.236
53	97.039	5.241
54	97.186	5.236
55	97.327	5.048
56	97.439	3.971
57	97.547	3.848
58	97.655	3.849
59	97.762	3.849
60	97.870	3.854
61	97.971	3.588
62	98.066	3.392
63	98.161	3.397
64	98.256	3.388
65	98.352	3.397
66	98.444	3.289
67	98.525	2.902
68	98.606	2.873
69	98.686	2.870
70	98.766	2.866
71	98.847	2.862
72	98.913	2.389
73	98.963	1.769
74	99.013	1.766
75	99.062	1.769
76	99.112	1.771
77	99.160	1.729
78	99.206	1.640
79	99.252	1.634
80	99.298	1.636
81	99.344	1.632
82	99.390	1.639
83	99.437	1.682
84	99.484	1.701
85	99.532	1.697
86	99.580	1.701
87	99.627	1.699
88	99.663	1.269
89	99.672	.336
90	99.681	.326
91	99.691	.328
92	99.700	.327
93	99.709	.328
94	99.718	.328
95	99.727	.325
96	99.737	.331
97	99.746	.325
98	99.755	.328

99	99.764	.328
100	99.773	.325
101	99.782	.331
102	99.792	.325
103	99.801	.328
104	99.810	.328
105	99.819	.328
106	99.828	.325
107	99.837	.331
108	99.847	.325
109	99.856	.328
110	99.862	.234
111	99.867	.152
112	99.871	.158
113	99.875	.155
114	99.880	.155
115	99.884	.152
116	99.888	.155
117	99.893	.155
118	99.897	.155
119	99.901	.158
120	99.906	.155
121	99.910	.155
122	99.914	.155
123	99.919	.155
124	99.923	.155
125	99.927	.155
126	99.932	.155
127	99.936	.155
128	99.940	.155
129	99.945	.155
130	99.949	.155
131	99.953	.155
132	99.958	.155
133	99.962	.155
134	99.967	.155
135	99.971	.155
136	99.975	.155
137	99.980	.155
138	99.984	.155
139	99.988	.155
140	99.993	.155
141	99.997	.155
142	100.000	.111

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = .82
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.74

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 20.1274
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 91.9270

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 50.0 100.0 150.0 200.0
16.083	47.5583	105.94	VQ
16.167	48.3276	111.69	.VQ
16.250	49.1152	114.36	.VQ
16.333	49.9419	120.04	.V Q
16.417	50.8395	130.32	. V Q
16.500	51.7963	138.93	. V Q
16.583	52.8131	147.65	. V Q
16.667	53.8755	154.26	. V Q
16.750	54.9798	160.34	. V Q
16.833	56.1530	170.35	. V Q
16.917	57.4353	186.18	. V Q
17.000	58.6068	170.11	. V Q
17.083	59.6733	154.86	. V Q
17.167	60.6831	146.61	. V Q
17.250	61.6537	140.94	. V Q
17.333	62.5857	135.33	. Q V
17.417	63.4758	129.24	. Q V
17.500	64.3219	122.85	. Q V
17.583	65.1280	117.05	. Q V
17.667	65.8946	111.31	. Q V
17.750	66.6261	106.20	.Q V
17.833	67.3226	101.13	Q V
17.917	67.9700	94.01	Q V
18.000	68.5786	88.37	Q V
18.083	69.1580	84.12	Q V
18.167	69.7083	79.91	Q V
18.250	70.2306	75.83	Q V
18.333	70.7310	72.67	Q V
18.417	71.2116	69.79	Q V
18.500	71.6780	67.72	Q .V
18.583	72.1291	65.49	Q .V
18.667	72.5665	63.51	Q .V
18.750	72.9928	61.91	Q .V
18.833	73.4062	60.02	Q .V
18.917	73.8102	58.66	.Q . V
19.000	74.2055	57.41	.Q . V

****
FLOW PROCESS FROM NODE 1.18 TO NODE 1.19 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 100.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION = 2980.00
DOWNSTREAM ELEVATION = 2910.00
CHANNEL LENGTH(FT) = 8600.00 MANNING'S FACTOR = .030
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 8995.10
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 6930.69
CHANNEL NORMAL VELOCITY FOR Q = 6930.69 CFS = 12.32 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .879

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .751

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 1) (CFS)
16.083	5817.7	5509.6	5509.6
16.167	5859.5	5686.2	5686.2
16.250	6324.4	5782.8	5782.8
16.333	6599.4	5839.0	5839.0
16.417	6715.8	6188.1	6188.1
16.500	6778.9	6487.9	6487.9
16.583	7235.3	6655.2	6655.2
16.667	7502.3	6746.1	6746.1
16.750	7627.5	7098.3	7098.3
16.833	7623.5	7392.9	7392.9
16.917	7952.9	7565.0	7565.0
17.000	8107.0	7609.1	7609.1
17.083	8126.1	7856.3	7856.3
17.167	8112.0	8039.5	8039.5

17.250	8468.6	8103.9	8103.9
17.333	8650.4	8110.5	8110.5
17.417	8682.1	8367.6	8367.6
17.500	8676.0	8574.0	8574.0
17.583	8807.1	8654.2	8654.2
17.667	8880.1	8670.8	8670.8
17.750	8883.1	8768.8	8768.8
17.833	8865.6	8849.9	8849.9
17.917	8915.6	8874.7	8874.7
18.000	8929.4	8868.4	8868.4
18.083	8923.9	8902.2	8902.2
18.167	8911.8	8922.2	8922.2
18.250	8968.5	8923.7	8923.7
18.333	8994.4	8915.1	8915.1
18.417	8995.1	8953.3	8953.3
18.500	8990.2	8983.4	8983.4
18.583	8651.7	8992.2	8992.2
18.667	8516.3	8990.9	8990.9
18.750	8477.8	8747.4	8747.4
18.833	8464.6	8578.3	8578.3
18.917	7982.0	8504.1	8504.1
19.000	7722.3	8474.9	8474.9
19.083	7646.4	8120.7	8120.7
19.167	7621.7	7830.1	7830.1
19.250	7167.7	7694.6	7694.6
19.333	6926.9	7640.7	7640.7
19.417	6858.7	7300.5	7300.5
19.500	6836.8	7027.9	7027.9
19.583	6436.9	6903.1	6903.1
19.667	6216.4	6854.0	6854.0
19.750	6153.0	6554.0	6554.0
19.833	6132.4	6307.8	6307.8
19.917	5810.8	6193.7	6193.7
20.000	5633.0	6148.4	6148.4

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 7681.493 AF
OUTFLOW VOLUME = 7681.504 AF
LOSS VOLUME = .000 AF

FLOW PROCESS FROM NODE 1.00 TO NODE 1.19 IS CODE = 1

>>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 630.000 ACRES
BASEFLOW = .000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = .945 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .300
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .300
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .000
VALLEY(UNDEVELOPED/DESERT):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .400
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = .072
LOW LOSS FRACTION = .128
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= .63
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.09
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.34
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.93
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.43
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.76

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = .437
30-MINUTE FACTOR = .475
1-HOUR FACTOR = .498
3-HOUR FACTOR = .844
6-HOUR FACTOR = .931
24-HOUR FACTOR = .958

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.818

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	.624	47.575
2	1.891	96.523
3	3.532	125.009
4	5.767	170.268
5	8.896	238.424
6	12.650	286.015
7	17.247	350.235

8	22.391	391.963
9	27.977	425.570
10	34.409	490.091
11	42.331	603.560
12	50.759	642.094
13	56.643	448.361
14	61.681	383.840
15	65.907	321.953
16	69.602	281.542
17	72.684	234.808
18	75.323	201.060
19	77.580	171.958
20	79.506	146.744
21	81.163	126.290
22	82.692	116.481
23	84.106	107.694
24	85.289	90.189
25	86.338	79.889
26	87.334	75.881
27	88.219	67.481
28	88.973	57.379
29	89.670	53.136
30	90.290	47.266
31	90.904	46.772
32	91.485	44.287
33	92.002	39.376
34	92.518	39.263
35	92.992	36.160
36	93.423	32.802
37	93.853	32.760
38	94.256	30.763
39	94.645	29.571
40	94.992	26.457
41	95.271	21.296
42	95.532	19.886
43	95.790	19.617
44	96.023	17.799
45	96.253	17.465
46	96.465	16.157
47	96.615	11.425
48	96.759	11.019
49	96.904	11.019
50	97.049	11.026
51	97.193	11.019
52	97.332	10.577
53	97.464	10.074
54	97.597	10.080
55	97.729	10.071
56	97.861	10.085
57	97.992	9.949
58	98.095	7.837
59	98.191	7.324
60	98.287	7.310
61	98.382	7.296
62	98.479	7.324
63	98.572	7.094
64	98.655	6.311
65	98.736	6.230
66	98.818	6.230
67	98.900	6.244
68	98.982	6.230
69	99.057	5.730
70	99.125	5.178
71	99.193	5.150
72	99.260	5.164
73	99.328	5.150
74	99.389	4.664
75	99.428	2.956
76	99.463	2.687
77	99.498	2.686
78	99.534	2.700
79	99.569	2.673
80	99.604	2.686
81	99.639	2.673
82	99.674	2.673
83	99.709	2.673
84	99.745	2.673
85	99.780	2.673
86	99.815	2.673
87	99.850	2.673
88	99.885	2.673
89	99.920	2.673
90	99.955	2.673
91	99.990	2.673
92	100.000	.750

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = .55
TOTAL EFFECTIVE RAINFALL(INCHES) = 4.01

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 28.8635
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 210.4319

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                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

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                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      125.0     250.0     375.0     500.0
--------------------------------------------------------------------------
  16.083    108.8299    243.55  .         .        QV         .         .
  16.167    110.5857    254.94  .         .         QV        .         .
  16.250    112.3773    260.15  .         .         QV        .         .
  16.333    114.2285    268.78  .         .         .Q        .         .
  16.417    116.2071    287.29  .         .         . Q       .         .
  16.500    118.2958    303.29  .         .         . V Q     .         .
  16.583    120.5214    323.15  .         .         . V  Q    .         .
  16.667    122.8536    338.63  .         .         .  V   Q  .         .
  16.750    125.2932    354.23  .         .         .  V    Q .         .
  16.833    127.8902    377.09  .         .         .   V     Q         .
  16.917    130.6819    405.36  .         .         .   V     . Q       .
  17.000    133.4984    408.94  .         .         .    V    . Q       .
  17.083    135.9806    360.42  .         .         .    V  Q .         .
  17.167    138.3265    340.63  .         .         .     VQ  .         .
  17.250    140.5639    324.87  .         .         .    QV   .         .
  17.333    142.7347    315.20  .         .         .    Q V  .         .
  17.417    144.8026    300.26  .         .         .   Q  V  .         .
  17.500    146.7794    287.02  .         .         . Q    V  .         .
  17.583    148.6635    273.57  .         .         .Q      V .         .
  17.667    150.4579    260.56  .         .         Q       V .         .
  17.750    152.1664    248.07  .         .        Q.       V .         .
  17.833    153.7977    236.87  .         .       Q .        V.         .
  17.917    155.3393    223.84  .         .      Q  .        V.         .
  18.000    156.7738    208.28  .         .     Q   .        V.         .
  18.083    158.1304    196.98  .         .    Q    .         V         .
  18.167    159.4247    187.93  .         .    Q    .         V         .
  18.250    160.6567    178.89  .         .   Q     .         V         .
  18.333    161.8281    170.09  .         .  Q      .         V         .
  18.417    162.9531    163.35  .         .  Q      .         V         .
  18.500    164.0350    157.09  .         . Q       .         .V        .
  18.583    165.0852    152.48  .         . Q       .         .V        .
  18.667    166.1032    147.81  .         .Q        .         .V        .
  18.750    167.0891    143.16  .         .Q        .         .V        .
  18.833    168.0513    139.71  .         .Q        .         .V        .
  18.917    168.9875    135.94  .         Q         .         . V       .
  19.000    169.9005    132.56  .         Q         .         . V       .

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  FLOW PROCESS FROM NODE      1.00 TO NODE      1.19 IS CODE =   1
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  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

     (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =      880.000 ACRES
        BASEFLOW =     .000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =      .796 HOURS
        VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .300
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .300
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .000
        VALLEY(UNDEVELOPED/DESERT):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .400
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =    .166
        LOW LOSS FRACTION =  .218
        *HYDROGRAPH MODEL #1 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=    .63
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR =  .437
         30-MINUTE FACTOR =  .475
          1-HOUR FACTOR =  .498
          3-HOUR FACTOR =  .844
          6-HOUR FACTOR =  .931
         24-HOUR FACTOR =  .958

        UNIT HYDROGRAPH TIME UNIT =   5.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =  10.469


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
        MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
```

NUMBER	MEAN VALUES	ORDINATES(CFS)
1	.741	78.893
2	2.311	167.046
3	4.496	232.521
4	7.723	343.463
5	12.039	459.279
6	17.389	569.398
7	23.579	658.771
8	30.502	736.837
9	38.794	882.409
10	49.108	1097.672
11	56.439	780.265
12	62.370	631.159
13	67.209	515.031
14	71.269	432.067
15	74.613	355.902
16	77.365	292.870
17	79.658	244.029
18	81.589	205.445
19	83.368	189.406
20	84.893	162.250
21	86.173	136.269
22	87.354	125.646
23	88.386	109.891
24	89.259	92.841
25	90.036	82.750
26	90.765	77.591
27	91.463	74.232
28	92.079	65.542
29	92.684	64.466
30	93.217	56.697
31	93.728	54.403
32	94.216	51.947
33	94.677	49.061
34	95.073	42.049
35	95.391	33.898
36	95.700	32.909
37	95.985	30.310
38	96.257	28.980
39	96.498	25.611
40	96.672	18.503
41	96.844	18.272
42	97.015	18.272
43	97.187	18.271
44	97.351	17.466
45	97.508	16.720
46	97.665	16.690
47	97.822	16.751
48	97.978	16.547
49	98.102	13.203
50	98.216	12.170
51	98.331	12.171
52	98.445	12.187
53	98.558	11.980
54	98.658	10.646
55	98.755	10.376
56	98.853	10.408
57	98.951	10.377
58	99.044	9.979
59	99.126	8.707
60	99.207	8.598
61	99.288	8.629
62	99.365	8.237
63	99.417	5.495
64	99.459	4.480
65	99.501	4.432
66	99.543	4.479
67	99.585	4.448
68	99.627	4.463
69	99.668	4.448
70	99.710	4.447
71	99.752	4.448
72	99.794	4.447
73	99.836	4.448
74	99.877	4.448
75	99.919	4.447
76	99.961	4.448
77	100.000	4.156

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = .95
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.61

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 69.3091
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 264.9599

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                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==============================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

------------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      150.0     300.0     450.0     600.0
------------------------------------------------------------------------------
  16.083    140.5213    307.10  .         .         QV        .         .
  16.167    142.7420    322.45  .         .         .Q        .         .
  16.250    145.0875    340.56  .         .         .VQ       .         .
  16.333    147.6478    371.76  .         .         . V Q     .         .
  16.417    150.4472    406.48  .         .         . V    Q  .         .
  16.500    153.4846    441.03  .         .         .  V     Q.         .
  16.583    156.7293    471.13  .         .         .  V      .Q        .
  16.667    160.1795    500.97  .         .         .   V     .  Q      .
  16.750    163.9093    541.57  .         .         .   V     .     Q   .
  16.833    167.9248    583.05  .         .         .    V    .       Q .
  16.917    171.4102    506.09  .         .         .    V    .  Q      .
  17.000    174.6178    465.74  .         .         .     V   .Q        .
  17.083    177.6235    436.43  .         .         .     V  Q.         .
  17.167    180.5111    419.28  .         .         .      Q  .         .
  17.250    183.2575    398.77  .         .         .     QV  .         .
  17.333    185.8661    378.77  .         .         .    Q  V .         .
  17.417    188.3454    360.01  .         .         .   Q   V .         .
  17.500    190.7017    342.13  .         .         . Q     V .         .
  17.583    192.9559    327.31  .         .         .Q       V.         .
  17.667    195.0823    308.76  .         .         Q        V.         .
  17.750    197.0695    288.53  .         .        Q.        V.         .
  17.833    198.9207    268.80  .         .      Q  .         V         .
  17.917    200.6550    251.82  .         .     Q   .         V         .
  18.000    202.2833    236.43  .         .    Q    .         V         .
  18.083    203.8266    224.09  .         .   Q     .         V         .
  18.167    205.3021    214.24  .         .   Q     .         V         .
  18.250    206.7199    205.87  .         .  Q      .         .V        .
  18.333    208.0783    197.23  .         .  Q      .         .V        .
  18.417    209.3932    190.93  .         . Q       .         .V        .
  18.500    210.6601    183.95  .         . Q       .         .V        .
  18.583    211.8904    178.64  .         .Q        .         .V        .
  18.667    213.0872    173.78  .         .Q        .         . V       .
  18.750    214.2529    169.26  .         .Q        .         . V       .
  18.833    215.3832    164.12  .         Q         .         . V       .
  18.917    216.4779    158.95  .         Q         .         . V       .
  19.000    217.5495    155.60  .         Q         .         . V       .

******************************************************************************
  FLOW PROCESS FROM NODE     1.19 TO NODE     1.20 IS CODE =  52
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==============================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =  120.00     CHANNEL Z =  2.00
          UPSTREAM ELEVATION =    2910.00
          DOWNSTREAM ELEVATION =    2895.00
          CHANNEL LENGTH(FT) =    4000.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  9355.61
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  7227.32
          CHANNEL NORMAL VELOCITY FOR Q =  7227.32 CFS =   9.25 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .845

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .806


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 1)    FLOW      (STREAM 1)
         (HRS)       (CFS)       (CFS)        (CFS)
         17.083       8653.2      8466.0       8466.0
         17.167       8799.4      8587.1       8587.1
         17.250       8827.6      8732.5       8732.5
         17.333       8804.4      8804.2       8804.2
         17.417       9027.9      8808.5       8808.5
         17.500       9203.1      8946.0       8946.0
         17.583       9255.1      9122.4       9122.4
         17.667       9240.1      9220.2       9220.2
         17.750       9305.4      9238.8       9238.8
         17.833       9355.6      9281.0       9281.0
         17.917       9350.4      9332.3       9332.3
         18.000       9313.1      9347.8       9347.8
         18.083       9323.3      9326.4       9326.4
         18.167       9324.4      9322.1       9322.1
```

18.250	9308.4	9323.7	9323.7
18.333	9282.5	9314.2	9314.2
18.417	9307.6	9293.2	9293.2
18.500	9324.4	9300.4	9300.4
18.583	9323.3	9316.8	9316.8
18.667	9312.5	9322.2	9322.2
18.750	9059.8	9316.3	9316.3
18.833	8882.1	9154.0	9154.0
18.917	8799.0	8966.1	8966.1
19.000	8763.0	8846.0	8846.0
19.083	8402.7	8785.4	8785.4
19.167	8105.7	8540.3	8540.3
19.250	7963.6	8242.2	8242.2
19.333	7902.2	8042.6	8042.6
19.417	7556.0	7940.2	7940.2
19.500	7278.6	7691.3	7691.3
19.583	7149.4	7407.4	7407.4
19.667	7095.4	7222.1	7222.1
19.750	6790.9	7129.5	7129.5
19.833	6540.3	6910.1	6910.1
19.917	6421.3	6656.1	6656.1
20.000	6372.2	6487.8	6487.8

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 8156.888 AF
OUTFLOW VOLUME = 8156.886 AF
LOSS VOLUME = .000 AF

FLOW PROCESS FROM NODE 6.00 TO NODE 7.09 IS CODE = 1

>>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 1107.000 ACRES
BASEFLOW = .000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = .730 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .300
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .100
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .000
VALLEY(UNDEVELOPED/DESERT):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .600
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = .243
LOW LOSS FRACTION = .284
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= .63
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.09
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.34
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.93
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.43
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.76

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = .437
30-MINUTE FACTOR = .475
1-HOUR FACTOR = .498
3-HOUR FACTOR = .844
6-HOUR FACTOR = .931
24-HOUR FACTOR = .958

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 11.416

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	.862	115.349
2	2.732	250.341
3	5.466	366.149
4	9.712	568.428
5	15.221	737.442
6	21.993	906.719
7	29.499	1004.871
8	37.803	1111.690
9	47.322	1274.383
10	55.262	1063.023
11	61.779	872.469
12	66.991	697.723
13	71.282	574.532
14	74.754	464.755
15	77.535	372.401
16	79.756	297.289
17	81.683	258.034
18	83.418	232.167
19	84.836	189.896

20	86.094	168.453
21	87.209	149.194
22	88.129	123.267
23	88.950	109.884
24	89.727	103.970
25	90.450	96.876
26	91.100	86.918
27	91.722	83.360
28	92.275	73.927
29	92.820	73.051
30	93.352	71.216
31	93.839	65.123
32	94.212	49.934
33	94.558	46.444
34	94.897	45.277
35	95.230	44.630
36	95.517	38.430
37	95.750	31.193
38	95.983	31.163
39	96.216	31.189
40	96.446	30.811
41	96.664	29.232
42	96.881	29.046
43	97.098	29.012
44	97.314	28.898
45	97.490	23.616
46	97.649	21.279
47	97.808	21.279
48	97.967	21.279
49	98.117	20.043
50	98.249	17.679
51	98.380	17.596
52	98.512	17.623
53	98.641	17.239
54	98.749	14.545
55	98.853	13.914
56	98.957	13.939
57	99.058	13.471
58	99.138	10.775
59	99.207	9.181
60	99.275	9.153
61	99.344	9.153
62	99.412	9.180
63	99.481	9.153
64	99.549	9.153
65	99.617	9.153
66	99.686	9.153
67	99.754	9.153
68	99.823	9.153
69	99.891	9.153
70	99.959	9.153
71	100.000	5.456

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.24
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.32

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 113.9951
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 306.5138

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                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      175.0     350.0     525.0     700.0
--------------------------------------------------------------------------
  16.083    163.5487    350.55  .         .         QV        .         .
  16.167    166.1938    384.07  .         .         .Q        .         .
  16.250    169.0788    418.89  .         .         . VQ      .         .
  16.333    172.3434    474.03  .         .         . V    Q  .         .
  16.417    175.9485    523.46  .         .         . V      Q.         .
  16.500    179.8867    571.83  .         .         .  V      . Q       .
  16.583    184.0462    603.95  .         .         .   V     .   Q     .
  16.667    188.4202    635.11  .         .         .   V     .     Q   .
  16.750    193.0213    668.08  .         .         .    V    .       Q .
  16.833    197.2686    616.70  .         .         .    V    .    Q    .
  16.917    201.1847    568.62  .         .         .     V   . Q       .
  17.000    204.8112    526.57  .         .         .     V   Q         .
  17.083    208.2476    498.96  .         .         .      VQ .         .
  17.167    211.4951    471.55  .         .         .     QV  .         .
  17.250    214.5646    445.68  .         .         .    Q  V .         .
  17.333    217.4624    420.77  .         .         .   Q   V .         .
  17.417    220.2262    401.30  .         .         . Q     V .         .
  17.500    222.8571    382.02  .         .         .Q       V.         .
  17.583    225.3203    357.65  .         .         Q        V.         .
  17.667    227.6348    336.07  .         .        Q.        V.         .
  17.750    229.7901    312.94  .         .      Q  .        V.         .
  17.833    231.7940    290.98  .         .     Q   .         V         .
  17.917    233.6801    273.85  .         .    Q    .         V         .
  18.000    235.4750    260.62  .         .   Q     .         V         .
  18.083    237.1875    248.66  .         .   Q     .         V         .
  18.167    238.8219    237.31  .         .  Q      .         .V        .
  18.250    240.3954    228.48  .         .  Q      .         .V        .
  18.333    241.9092    219.80  .         . Q       .         .V        .
  18.417    243.3812    213.74  .         . Q       .         .V        .
  18.500    244.8119    207.72  .         .Q        .         .V        .
  18.583    246.1981    201.29  .         .Q        .         . V       .
  18.667    247.5305    193.46  .         .Q        .         . V       .
  18.750    248.8310    188.84  .         Q         .         . V       .
  18.833    250.1056    185.06  .         Q         .         . V       .
  18.917    251.3546    181.36  .         Q         .         . V       .
  19.000    252.5690    176.32  .         Q         .         . V       .

**************************************************************************
  FLOW PROCESS FROM NODE     7.00 TO NODE     7.08 IS CODE =   1
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  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #3)

         WATERSHED AREA =      969.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =     1.369 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .300
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .100
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .000
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =    .600
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =    .230
         LOW LOSS FRACTION =  .262
         *HYDROGRAPH MODEL #2 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  12.174


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                      UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
```

NUMBER	MEAN VALUES	ORDINATES(CFS)
1	.919	53.841
2	2.957	119.445
3	6.060	181.806
4	10.903	283.753
5	17.152	366.168
6	24.669	440.474
7	33.011	488.763
8	42.401	550.228
9	52.109	568.809
10	59.518	434.135
11	65.501	350.587
12	70.364	284.930
13	74.217	225.771
14	77.275	179.148
15	79.680	140.939
16	81.739	120.663
17	83.564	106.907
18	85.047	86.910
19	86.366	77.265
20	87.496	66.229
21	88.439	55.222
22	89.284	49.507
23	90.100	47.854
24	90.816	41.919
25	91.501	40.134
26	92.107	35.551
27	92.691	34.211
28	93.261	33.392
29	93.792	31.129
30	94.198	23.768
31	94.568	21.671
32	94.928	21.104
33	95.282	20.768
34	95.570	16.852
35	95.818	14.545
36	96.067	14.561
37	96.315	14.545
38	96.554	14.023
39	96.785	13.543
40	97.017	13.568
41	97.248	13.540
42	97.452	11.959
43	97.623	10.008
44	97.794	9.996
45	97.964	10.007
46	98.125	9.421
47	98.267	8.327
48	98.409	8.282
49	98.550	8.304
50	98.684	7.842
51	98.798	6.657
52	98.907	6.370
53	99.009	6.001
54	99.106	5.663
55	99.181	4.411
56	99.254	4.286
57	99.327	4.275
58	99.400	4.286
59	99.473	4.275
60	99.546	4.275
61	99.619	4.275
62	99.692	4.275
63	99.765	4.275
64	99.838	4.275
65	99.911	4.275
66	99.984	4.275
67	100.000	.948

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.15
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.41

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 92.8310
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 275.2533

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                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.      125.0     250.0     375.0     500.0
--------------------------------------------------------------------------
  16.083    129.9272    294.66  .         .       V .  Q      .         .
  16.167    131.9566    294.66  .         .        V.  Q      .         .
  16.250    134.1126    313.05  .         .        V.    Q    .         .
  16.333    136.2685    313.05  .         .        V.    Q    .         .
  16.417    138.5528    331.68  .         .         V     Q   .         .
  16.500    140.8371    331.68  .         .         V     Q   .         .
  16.583    143.2977    357.28  .         .         V       Q .         .
  16.667    145.7583    357.28  .         .          V      Q .         .
  16.750    148.3566    377.26  .         .         .V        Q         .
  16.833    150.9548    377.26  .         .         .V        Q         .
  16.917    153.7061    399.50  .         .         . V       .Q        .
  17.000    156.4575    399.50  .         .         . V       .Q        .
  17.083    159.3281    416.81  .         .         .  V      .  Q      .
  17.167    162.1987    416.81  .         .         .  V      .  Q      .
  17.250    165.1829    433.30  .         .         .   V     .   Q     .
  17.333    168.1671    433.30  .         .         .   V     .   Q     .
  17.417    171.1347    430.90  .         .         .   V     .   Q     .
  17.500    174.1023    430.90  .         .         .    V    .   Q     .
  17.583    176.8123    393.49  .         .         .    V    .Q        .
  17.667    179.5223    393.49  .         .         .     V   .Q        .
  17.750    182.0533    367.50  .         .         .     V  Q.         .
  17.833    184.5843    367.50  .         .         .     V  Q.         .
  17.917    186.9270    340.17  .         .         .      Q  .         .
  18.000    189.2698    340.17  .         .         .      Q  .         .
  18.083    191.4171    311.79  .         .         .   Q  V  .         .
  18.167    193.5644    311.79  .         .         .   Q   V .         .
  18.250    195.5229    284.37  .         .         . Q     V .         .
  18.333    197.4814    284.37  .         .         . Q     V .         .
  18.417    199.2607    258.35  .         .         Q       V .         .
  18.500    201.0399    258.35  .         .         Q        V.         .
  18.583    202.6885    239.38  .         .        Q.        V.         .
  18.667    204.3371    239.38  .         .        Q.        V.         .
  18.750    205.8755    223.38  .         .      Q  .        V.         .
  18.833    207.4139    223.38  .         .      Q  .         V         .
  18.917    208.8459    207.92  .         .     Q   .         V         .
  19.000    210.2778    207.92  .         .     Q   .         V         .

**************************************************************************
  FLOW PROCESS FROM NODE     7.08 TO NODE     7.09 IS CODE =  52
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
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        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =    25.00      CHANNEL Z =  2.00
          UPSTREAM ELEVATION =     3235.00
          DOWNSTREAM ELEVATION =     3120.00
          CHANNEL LENGTH(FT) =     7000.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =      .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =    433.30
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =    320.47
          CHANNEL NORMAL VELOCITY FOR Q =    320.47 CFS =    7.61 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .817

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .639


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                                OUTFLOW LESS
         MODEL        INFLOW      ROUTED        LOSS
          TIME      (STREAM 3)    FLOW      (STREAM 3)
         (HRS)       (CFS)       (CFS)        (CFS)
         16.083        294.7       269.5        269.5
         16.167        294.7       273.8        273.8
         16.250        313.0       281.2        281.2
         16.333        313.0       289.8        289.8
         16.417        331.7       298.7        298.7
         16.500        331.7       307.9        307.9
         16.583        357.3       317.1        317.1
         16.667        357.3       326.4        326.4
         16.750        377.3       337.9        337.9
         16.833        377.3       350.3        350.3
         16.917        399.5       361.1        361.1
         17.000        399.5       371.4        371.4
         17.083        416.8       382.2        382.2
         17.167        416.8       393.3        393.3
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17.250	433.3	402.7	402.7
17.333	433.3	411.7	411.7
17.417	430.9	420.2	420.2
17.500	430.9	428.6	428.6
17.583	393.5	430.8	430.8
17.667	393.5	430.9	430.9
17.750	367.5	419.1	419.1
17.833	367.5	402.7	402.7
17.917	340.2	388.6	388.6
18.000	340.2	375.1	375.1
18.083	311.8	361.6	361.6
18.167	311.8	347.9	347.9
18.250	284.4	334.0	334.0
18.333	284.4	319.8	319.8
18.417	258.3	306.0	306.0
18.500	258.3	292.2	292.2
18.583	239.4	279.0	279.0
18.667	239.4	265.8	265.8
18.750	223.4	255.0	255.0
18.833	223.4	245.0	245.0
18.917	207.9	236.4	236.4
19.000	207.9	228.1	228.1

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 275.253 AF
OUTFLOW VOLUME = 275.253 AF
LOSS VOLUME = .000 AF

FLOW PROCESS FROM NODE 7.09 TO NODE 7.09 IS CODE = 7

>>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 7.09 TO NODE 7.10 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 25.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION = 3120.00
DOWNSTREAM ELEVATION = 3025.00
CHANNEL LENGTH(FT) = 7000.00 MANNING'S FACTOR = .030
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 1005.95
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 712.98
CHANNEL NORMAL VELOCITY FOR Q = 712.98 CFS = 9.40 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .847

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .705

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 2) (CFS)
16.083	620.0	588.6	588.6
16.167	657.8	590.9	590.9
16.250	700.0	609.4	609.4
16.333	763.8	640.8	640.8
16.417	822.2	679.5	679.5
16.500	879.7	734.3	734.3
16.583	921.0	792.0	792.0
16.667	961.5	849.6	849.6
16.750	1006.0	896.9	896.9
16.833	967.0	939.5	939.5
16.917	929.7	983.1	983.1
17.000	898.0	974.6	974.6
17.083	881.1	945.6	945.6
17.167	864.8	914.4	914.4
17.250	848.4	892.2	892.2
17.333	832.5	874.1	874.1
17.417	821.5	857.2	857.2
17.500	810.6	840.9	840.9
17.583	788.5	828.0	828.0
17.667	766.9	816.5	816.5
17.750	732.0	798.4	798.4
17.833	693.7	777.8	777.8
17.917	662.5	748.1	748.1
18.000	635.7	712.5	712.5
18.083	610.3	679.5	679.5
18.167	585.2	650.6	650.6
18.250	562.5	624.0	624.0
18.333	539.6	598.5	598.5

18.417	519.7	574.8	574.8
18.500	499.9	551.6	551.6
18.583	480.2	530.6	530.6
18.667	459.2	510.4	510.4
18.750	443.9	490.6	490.6
18.833	430.1	470.0	470.0
18.917	417.7	452.7	452.7
19.000	404.4	437.8	437.8

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 581.767 AF
OUTFLOW VOLUME = 581.768 AF
LOSS VOLUME = .000 AF

FLOW PROCESS FROM NODE 5.00 TO NODE 7.10 IS CODE = 1

>>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 3603.000 ACRES
BASEFLOW = .000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 2.789 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .500
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .100
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .000
VALLEY(UNDEVELOPED/DESERT):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .400
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = .265
LOW LOSS FRACTION = .308
HYDROGRAPH MODEL #4 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= .63
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.09
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.34
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.93
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.43
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.76

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = .437
30-MINUTE FACTOR = .475
1-HOUR FACTOR = .498
3-HOUR FACTOR = .844
6-HOUR FACTOR = .931
24-HOUR FACTOR = .958

UNIT HYDROGRAPH TIME UNIT = 20.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 11.952

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	.831	90.579
2	2.655	198.650
3	5.415	300.628
4	10.010	500.562
5	16.085	661.821
6	23.310	787.011
7	31.317	872.205
8	40.503	1000.730
9	50.885	1130.978
10	59.077	892.309
11	65.959	749.767
12	71.604	614.955
13	76.024	481.414
14	79.568	386.131
15	82.265	293.731
16	84.480	241.265
17	86.427	212.187
18	87.957	166.648
19	89.210	136.515
20	90.323	121.155
21	91.134	88.412
22	91.818	74.452
23	92.465	70.557
24	93.066	65.414
25	93.618	60.117
26	94.139	56.755
27	94.614	51.819
28	95.084	51.103
29	95.540	49.744
30	95.872	36.168
31	96.134	28.499
32	96.389	27.825
33	96.634	26.664

34	96.867	25.388
35	97.043	19.139
36	97.210	18.222
37	97.377	18.225
38	97.544	18.148
39	97.702	17.207
40	97.857	16.930
41	98.013	16.919
42	98.167	16.861
43	98.295	13.850
44	98.409	12.441
45	98.523	12.411
46	98.637	12.426
47	98.742	11.414
48	98.836	10.346
49	98.931	10.318
50	99.026	10.346
51	99.115	9.663
52	99.191	8.310
53	99.267	8.239
54	99.341	8.053
55	99.404	6.907
56	99.453	5.355
57	99.501	5.212
58	99.549	5.213
59	99.597	5.198
60	99.645	5.213
61	99.692	5.198
62	99.740	5.199
63	99.788	5.198
64	99.835	5.199
65	99.883	5.198
66	99.931	5.198
67	99.979	5.199
68	100.000	2.335

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.38
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.18

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 413.8021
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 954.8682

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	300.0	600.0	900.0	1200.0
16.083	362.6598	712.93	.	.	V . Q	.	.
16.167	367.5698	712.93	.	.	V . Q	.	.
16.250	372.4798	712.93	.	.	V . Q	.	.
16.333	377.3898	712.93	.	.	V . Q	.	.
16.417	382.8628	794.68	.	.	V . Q	.	.
16.500	388.3358	794.68	.	.	V . Q	.	.
16.583	393.8088	794.68	.	.	V . Q	.	.
16.667	399.2818	794.68	.	.	V . Q	.	.
16.750	405.3657	883.39	.	.	V .	Q.	.
16.833	411.4496	883.39	.	.	V .	Q.	.
16.917	417.5336	883.39	.	.	V .	Q.	.
17.000	423.6175	883.39	.	.	V .	Q.	.
17.083	430.3119	972.03	.	.	V .	. Q	.
17.167	437.0063	972.03	.	.	V .	. Q	.
17.250	443.7007	972.03	.	.	V .	. Q	.
17.333	450.3951	972.03	.	.	V .	. Q	.
17.417	457.5602	1040.37	.	.	V.	. Q	.
17.500	464.7252	1040.37	.	.	V.	. Q	.
17.583	471.8903	1040.37	.	.	V.	. Q	.
17.667	479.0554	1040.37	.	.	V	. Q	.
17.750	486.5089	1082.25	.	.	V	.	Q .
17.833	493.9623	1082.25	.	.	V	.	Q .
17.917	501.4158	1082.25	.	.	V	.	Q .
18.000	508.8693	1082.25	.	.	V	.	Q .
18.083	516.4066	1094.42	.	.	.V	.	Q .
18.167	523.9439	1094.42	.	.	.V	.	Q .
18.250	531.4812	1094.42	.	.	. V	.	Q .
18.333	539.0185	1094.42	.	.	. V	.	Q .
18.417	546.6882	1113.64	.	.	. V	.	Q .
18.500	554.3580	1113.64	.	.	. V	.	Q .
18.583	562.0277	1113.64	.	.	. V	.	Q .
18.667	569.6974	1113.64	.	.	. V	.	Q .
18.750	577.3010	1104.03	.	.	. V	.	Q .
18.833	584.9045	1104.03	.	.	. V	.	Q .
18.917	592.5080	1104.03	.	.	. V	.	Q .
19.000	600.1115	1104.03	.	.	. V	.	Q .

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FLOW PROCESS FROM NODE 7.10 TO NODE 7.11 IS CODE = 52

>>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 25.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION = 3025.00
DOWNSTREAM ELEVATION = 2940.00
CHANNEL LENGTH(FT) = 7500.00 MANNING'S FACTOR = .030
CONSTANT LOSS RATE(CFS) = .00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 1917.68
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1446.08
CHANNEL NORMAL VELOCITY FOR Q = 1446.08 CFS = 11.09 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = .867

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = .744

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 2) (CFS)
16.083	1301.6	1218.5	1218.5
16.167	1303.8	1224.5	1224.5
16.250	1322.3	1281.9	1281.9
16.333	1353.7	1298.9	1298.9
16.417	1474.2	1317.4	1317.4
16.500	1529.0	1348.5	1348.5
16.583	1586.7	1443.8	1443.8
16.667	1644.3	1509.1	1509.1
16.750	1780.3	1568.8	1568.8
16.833	1822.9	1629.6	1629.6
16.917	1866.5	1743.1	1743.1
17.000	1858.0	1803.9	1803.9
17.083	1917.7	1850.2	1850.2
17.167	1886.4	1858.0	1858.0

17.250	1864.2	1901.3	1901.3
17.333	1846.1	1889.5	1889.5
17.417	1897.5	1870.1	1870.1
17.500	1881.3	1854.0	1854.0
17.583	1868.4	1885.8	1885.8
17.667	1856.9	1882.0	1882.0
17.750	1880.6	1871.5	1871.5
17.833	1860.0	1861.4	1861.4
17.917	1830.3	1875.0	1875.0
18.000	1794.8	1862.9	1862.9
18.083	1773.9	1837.4	1837.4
18.167	1745.0	1805.0	1805.0
18.250	1718.4	1780.9	1780.9
18.333	1692.9	1753.3	1753.3
18.417	1688.4	1726.5	1726.5
18.500	1665.3	1701.4	1701.4
18.583	1644.2	1690.9	1690.9
18.667	1624.1	1671.1	1671.1
18.750	1594.6	1650.4	1650.4
18.833	1574.1	1629.8	1629.8
18.917	1556.7	1602.9	1602.9
19.000	1541.8	1580.9	1580.9

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 1536.635 AF
OUTFLOW VOLUME = 1536.635 AF
LOSS VOLUME = .000 AF

FLOW PROCESS FROM NODE 8.00 TO NODE 7.11 IS CODE = 1

>>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 7881.000 ACRES
BASEFLOW = .000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 2.459 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .500
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .200
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .000
VALLEY(UNDEVELOPED/DESERT):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .300
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = .191
LOW LOSS FRACTION = .225
HYDROGRAPH MODEL #4 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= .63
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.09
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.34
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.93
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.43
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.76

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = .437
30-MINUTE FACTOR = .475
1-HOUR FACTOR = .498
3-HOUR FACTOR = .844
6-HOUR FACTOR = .931
24-HOUR FACTOR = .958

UNIT HYDROGRAPH TIME UNIT = 20.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 13.556

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	.911	217.179
2	3.020	502.322
3	6.510	831.671
4	12.208	1357.645
5	19.595	1760.131
6	28.137	2035.440
7	38.444	2455.821
8	50.883	2964.049
9	60.276	2238.100
10	67.804	1793.816
11	73.738	1413.958
12	78.300	1086.979
13	81.783	829.985
14	84.458	637.268
15	86.753	546.996
16	88.525	422.195
17	89.958	341.260
18	91.158	286.081
19	92.022	205.926

20	92.779	180.197
21	93.496	171.004
22	94.137	152.786
23	94.739	143.435
24	95.285	129.944
25	95.807	124.345
26	96.269	110.167
27	96.586	75.425
28	96.871	68.026
29	97.133	62.436
30	97.377	58.064
31	97.551	41.599
32	97.714	38.760
33	97.877	38.758
34	98.035	37.713
35	98.184	35.598
36	98.333	35.529
37	98.482	35.458
38	98.605	29.257
39	98.715	26.229
40	98.825	26.187
41	98.934	25.860
42	99.030	22.975
43	99.124	22.315
44	99.217	22.335
45	99.307	21.266
46	99.385	18.608
47	99.462	18.443
48	99.524	14.845
49	99.572	11.433
50	99.613	9.702
51	99.654	9.680
52	99.694	9.682
53	99.735	9.702
54	99.776	9.682
55	99.816	9.680
56	99.857	9.682
57	99.898	9.680
58	99.938	9.682
59	99.979	9.682
60	100.000	5.036

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = 1.01
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.55

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 660.6469
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 2332.9800

```
                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H
```

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	725.0	1450.0	2175.0	2900.0
16.083	933.6783	1892.26	.	.	V .	Q .	.
16.167	946.7104	1892.26	.	.	V .	Q .	.
16.250	959.7424	1892.26	.	.	V .	Q .	.
16.333	972.7745	1892.26	.	.	V .	Q .	.
16.417	987.4999	2138.14	.	.	V .	Q.	.
16.500	1002.2250	2138.14	.	.	V .	Q.	.
16.583	1016.9510	2138.14	.	.	V .	Q.	.
16.667	1031.6760	2138.14	.	.	V .	Q.	.
16.750	1047.9480	2362.61	.	.	V .	. Q	.
16.833	1064.2190	2362.61	.	.	V .	. Q	.
16.917	1080.4900	2362.61	.	.	V .	. Q	.
17.000	1096.7620	2362.61	.	.	V .	. Q	.
17.083	1114.5650	2584.95	.	.	V.	. Q	.
17.167	1132.3670	2584.95	.	.	V.	. Q	.
17.250	1150.1700	2584.95	.	.	V.	. Q	.
17.333	1167.9730	2584.95	.	.	V	. Q	.
17.417	1186.7450	2725.65	.	.	V	. Q	.
17.500	1205.5160	2725.65	.	.	V	. Q	.
17.583	1224.2880	2725.65	.	.	V	. Q	.
17.667	1243.0600	2725.65	.	.	V	. Q	.
17.750	1262.2210	2782.22	.	.	.V	. Q	.
17.833	1281.3820	2782.22	.	.	.V	. Q	.
17.917	1300.5430	2782.22	.	.	. V	. Q	.
18.000	1319.7050	2782.22	.	.	. V	. Q	.
18.083	1339.5160	2876.61	.	.	. V	. Q	.
18.167	1359.3280	2876.61	.	.	. V	. Q	.
18.250	1379.1390	2876.61	.	.	. V	. Q	.
18.333	1398.9500	2876.61	.	.	. V	. Q	.
18.417	1418.8690	2892.23	.	.	. V	. Q	.
18.500	1438.7880	2892.23	.	.	. V	. Q	.
18.583	1458.7070	2892.23	.	.	. V	. Q	.
18.667	1478.6260	2892.23	.	.	. V	. Q	.
18.750	1496.8970	2652.90	.	.	. V	. Q	.
18.833	1515.1670	2652.90	.	.	. V	. Q	.
18.917	1533.4380	2652.90	.	.	. V	. Q	.
19.000	1551.7090	2652.90	.	.	. V	. Q	.

```
**************************************************************************
 FLOW PROCESS FROM NODE      7.11 TO NODE      1.20 IS CODE =  52
--------------------------------------------------------------------------
 >>>>>MODEL CHANNEL ROUTING BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =   50.00     CHANNEL Z =  2.00
          UPSTREAM ELEVATION =    2940.00
          DOWNSTREAM ELEVATION =    2895.00
          CHANNEL LENGTH(FT) =    4800.00     MANNING'S FACTOR =  .030
          CONSTANT LOSS RATE(CFS) =     .00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =  4714.05
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =  3637.92
          CHANNEL NORMAL VELOCITY FOR Q =  3637.92 CFS =  12.31 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT =  .879

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
        UNIT INTERVALS IS CSTAR =  .855


        CONVEX METHOD CHANNEL ROUTING RESULTS:
```

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 2) (CFS)
16.083	3110.7	2875.2	2875.2
16.167	3116.8	3048.9	3048.9
16.250	3174.2	3106.2	3106.2
16.333	3191.1	3157.4	3157.4
16.417	3455.5	3184.2	3184.2
16.500	3486.7	3384.2	3384.2
16.583	3582.0	3468.1	3468.1
16.667	3647.3	3553.9	3553.9
16.750	3931.4	3625.8	3625.8
16.833	3992.2	3852.7	3852.7
16.917	4105.8	3964.6	3964.6
17.000	4166.6	4071.6	4071.6
17.083	4435.1	4145.4	4145.4
17.167	4443.0	4360.6	4360.6

17.250	4486.3	4430.1	4430.1
17.333	4474.4	4472.9	4472.9
17.417	4595.7	4475.6	4475.6
17.500	4579.6	4563.6	4563.6
17.583	4611.5	4579.3	4579.3
17.667	4607.7	4603.0	4603.0
17.750	4653.7	4607.5	4607.5
17.833	4643.7	4641.4	4641.4
17.917	4657.2	4644.6	4644.6
18.000	4645.1	4653.7	4653.7
18.083	4714.0	4647.8	4647.8
18.167	4681.6	4696.1	4696.1
18.250	4657.5	4687.6	4687.6
18.333	4629.9	4664.8	4664.8
18.417	4618.7	4638.3	4638.3
18.500	4593.6	4622.9	4622.9
18.583	4583.2	4600.9	4600.9
18.667	4563.4	4587.0	4587.0
18.750	4303.3	4569.2	4569.2
18.833	4282.7	4373.4	4373.4
18.917	4255.8	4298.3	4298.3
19.000	4233.8	4265.2	4265.2

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 3869.619 AF
OUTFLOW VOLUME = 3869.623 AF
LOSS VOLUME = .000 AF

FLOW PROCESS FROM NODE 1.20 TO NODE 1.20 IS CODE = 7

>>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

FLOW PROCESS FROM NODE 1.00 TO NODE 1.20 IS CODE = 1

>>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 741.000 ACRES
BASEFLOW = .000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = .883 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 1.000
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .000
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .000
VALLEY(UNDEVELOPED/DESERT):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = .000
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = .046
LOW LOSS FRACTION = .098
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= .63
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.09
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.34
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.93
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.43
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.76

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = .437
30-MINUTE FACTOR = .475
1-HOUR FACTOR = .498
3-HOUR FACTOR = .844
6-HOUR FACTOR = .931
24-HOUR FACTOR = .958

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 9.438

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	.539	48.328
2	1.624	97.191
3	3.060	128.683
4	5.327	203.188
5	9.326	358.353
6	14.376	452.579
7	19.927	497.428
8	26.020	546.008
9	32.663	595.283
10	39.888	647.539
11	48.940	811.160
12	56.825	706.634

13	64.314	671.140
14	70.744	576.195
15	76.577	522.690
16	80.982	394.769
17	84.828	344.678
18	87.889	274.324
19	90.158	203.325
20	92.132	176.925
21	93.880	156.640
22	95.163	114.930
23	96.214	94.213
24	96.963	67.137
25	97.701	66.079
26	98.106	36.331
27	98.283	15.857
28	98.460	15.857
29	98.637	15.857
30	98.814	15.875
31	98.991	15.839
32	99.168	15.857
33	99.345	15.839
34	99.521	15.839
35	99.698	15.839
36	99.875	15.839
37	100.000	11.223

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = .41
TOTAL EFFECTIVE RAINFALL(INCHES) = 4.15

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 25.6108
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 255.8418

```
==========================================================================

                    2 4 - H O U R   S T O R M
                 R U N O F F   H Y D R O G R A P H

==========================================================================
                HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.      150.0     300.0     450.0     600.0
--------------------------------------------------------------------------
  16.083    138.1270    311.04  .         .         QV        .         .
  16.167    140.3432    321.79  .         .         .Q        .         .
  16.250    142.6011    327.85  .         .         .QV       .         .
  16.333    144.9996    348.26  .         .         . VQ      .         .
  16.417    147.6626    386.66  .         .         .  V Q    .         .
  16.500    150.4966    411.49  .         .         .  V   Q  .         .
  16.583    153.4221    424.78  .         .         .  V    Q .         .
  16.667    156.4584    440.87  .         .         .   V    Q.         .
  16.750    159.6328    460.93  .         .         .   V     Q         .
  16.833    162.9564    482.58  .         .         .    V    . Q       .
  16.917    166.5480    521.49  .         .         .     V   .   Q     .
  17.000    169.9777    498.00  .         .         .     V   .  Q      .
  17.083    173.3199    485.28  .         .         .      V  . Q       .
  17.167    176.4782    458.59  .         .         .      V  Q         .
  17.250    179.5256    442.48  .         .         .       VQ.         .
  17.333    182.3386    408.45  .         .         .      QV .         .
  17.417    185.0166    388.84  .         .         .    Q  V .         .
  17.500    187.5190    363.34  .         .         .   Q    V.         .
  17.583    189.8511    338.63  .         .         . Q      V.         .
  17.667    192.0652    321.48  .         .         .Q        V         .
  17.750    194.1628    304.57  .         .         Q         V         .
  17.833    196.1026    281.66  .         .       Q .         V         .
  17.917    197.8956    260.35  .         .      Q  .         V         .
  18.000    199.5454    239.55  .         .    Q    .         .V        .
  18.083    201.0923    224.62  .         .   Q     .         .V        .
  18.167    202.5023    204.72  .         .  Q      .         .V        .
  18.250    203.7998    188.40  .         . Q       .         .V        .
  18.333    205.0307    178.73  .         .Q        .         . V       .
  18.417    206.2060    170.66  .         .Q        .         . V       .
  18.500    207.3331    163.66  .         Q         .         . V       .
  18.583    208.4179    157.51  .         Q         .         . V       .
  18.667    209.4649    152.03  .         Q         .         . V       .
  18.750    210.4778    147.07  .        Q.         .         . V       .
  18.833    211.4618    142.89  .        Q.         .         .  V      .
  18.917    212.4206    139.21  .        Q.         .         .  V      .
  19.000    213.3552    135.70  .        Q.         .         .  V      .

**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.20 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>UNIT-HYDROGRAPH ANALYSIS<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =      899.000 ACRES
         BASEFLOW =     .000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =     1.004 HOURS
         VALLEY(DEVELOPED):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  1.000
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         VALLEY(UNDEVELOPED/DESERT):
                  "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =   .000
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =   .129
         LOW LOSS FRACTION =  .172
         *HYDROGRAPH MODEL #2 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=   .63
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.34
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  1.93
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  2.43
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  4.76

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR =  .437
          30-MINUTE FACTOR =  .475
           1-HOUR FACTOR =  .498
           3-HOUR FACTOR =  .844
           6-HOUR FACTOR =  .931
          24-HOUR FACTOR =  .958

         UNIT HYDROGRAPH TIME UNIT =  10.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =  16.600


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 16.00
         MODEL TIME(HOURS) FOR END OF RESULTS = 19.00

==========================================================================
                     UNIT HYDROGRAPH DETERMINATION

--------------------------------------------------------------------------
    INTERVAL          "S" GRAPH          UNIT HYDROGRAPH
```

NUMBER	MEAN VALUES	ORDINATES(CFS)
1	.949	51.566
2	3.366	131.420
3	8.933	302.609
4	18.027	494.376
5	28.720	581.281
6	41.640	702.364
7	56.320	798.040
8	68.815	679.202
9	78.599	531.895
10	85.474	373.734
11	90.072	249.930
12	93.401	180.969
13	95.688	124.366
14	97.145	79.205
15	98.095	51.612
16	98.418	17.583
17	98.730	16.924
18	99.041	16.920
19	99.352	16.920
20	99.663	16.920
21	99.975	16.920
22	100.000	1.383

TOTAL STORM RAINFALL(INCHES) = 4.56
TOTAL SOIL-LOSS(INCHES) = .75
TOTAL EFFECTIVE RAINFALL(INCHES) = 3.81

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 56.1981
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 285.2804

24-HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 150.0 300.0 450.0 600.0
16.083	150.2508	344.01	
16.167	152.6200	344.01	
16.250	155.1311	364.61	
16.333	157.6422	364.61	
16.417	160.4325	405.16	
16.500	163.2229	405.16	
16.583	166.3203	449.75	
16.667	169.4177	449.75	
16.750	172.7066	477.54	
16.833	175.9955	477.54	
16.917	179.5609	517.71	
17.000	183.1264	517.71	
17.083	186.8412	539.38	
17.167	190.5559	539.38	
17.250	194.0380	505.59	
17.333	197.5200	505.59	
17.417	200.7009	461.86	
17.500	203.8818	461.86	
17.583	206.6948	408.45	
17.667	209.5079	408.45	
17.750	211.9885	360.19	
17.833	214.4691	360.19	
17.917	216.6703	319.61	
18.000	218.8715	319.61	
18.083	220.7796	277.05	
18.167	222.6877	277.05	
18.250	224.3409	240.04	
18.333	225.9940	240.04	
18.417	227.4440	210.54	
18.500	228.8940	210.54	
18.583	230.1711	185.43	
18.667	231.4482	185.43	
18.750	232.6342	172.21	
18.833	233.8203	172.21	
18.917	234.9335	161.64	
19.000	236.0467	161.64	

****
FLOW PROCESS FROM NODE 1.20 TO NODE 1.20 IS CODE = 11

>>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE INTERVALS(CFS)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 3650.0 7300.0 10950.0 14600.0
16.083	4902.4150	9327.71	
16.167	4969.0870	9680.86	
16.250	5037.7430	9968.88	
16.333	5107.9310	10191.31	
16.417	5179.6110	10407.94	
16.500	5254.8500	10924.69	
16.583	5333.4630	11414.63	
16.667	5414.6110	11782.63	
16.750	5497.7920	12078.00	
16.833	5584.8580	12641.94	
16.917	5675.7130	13192.16	
17.000	5768.5930	13486.11	
17.083	5862.5050	13636.09	
17.167	5958.5500	13945.66	
17.250	6055.7300	14110.66	
17.333	6153.4650	14191.08	
17.417	6250.8130	14134.78	
17.500	6349.5380	14334.86	
17.583	6449.0470	14448.81	
17.667	6549.2750	14553.09	
17.750	6649.2140	14511.05	
17.833	6749.5190	14564.28	
17.917	6849.7730	14556.83	
18.000	6950.0530	14560.70	
18.083	7049.7500	14475.89	
18.167	7149.6110	14499.96	
18.250	7249.0590	14439.81	
18.333	7348.2170	14397.75	
18.417	7446.7900	14312.69	
18.500	7545.2570	14297.52	
18.583	7643.4710	14260.63	
18.667	7741.5890	14246.67	
18.750	7839.4170	14204.73	
18.833	7934.7510	13842.47	
18.917	8028.1760	13565.29	
19.000	8120.5220	13408.59	
19.083	8212.1960	13311.10	
19.167	8300.8010	12865.33	
19.250	8386.7870	12485.18	

```
 19.333   8470.9280  12217.17  .          .          .     V    .   Q        .
 19.417   8554.0330  12066.94  .          .          .      V   .   Q        .
 19.500   8633.9160  11598.93  .          .          .      V   .Q           .
 19.583   8711.2390  11227.32  .          .          .      V  Q             .
 19.667   8786.8380  10976.92  .          .          .      V  Q             .
 19.750   8861.5120  10842.64  .          .          .        VQ.            .
 19.833   8933.3870  10436.22  .          .          .        Q .            .
 19.917   9003.0210  10110.79  .          .          .       QV .            .
 20.000   9071.0360   9875.88  .          .          .       QV .            .
================================================================================
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END OF FLOOD ROUTING ANALYSIS

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**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
        (Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)
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           Ver. 1.5A  Release Date: 3/05/92  License ID 1263

                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                           DESIGN NODE 1.20                             *
*                  TIME OF CONCENTRATION AT NODE 1.05                    *
*                                                                        *
 **************************************************************************

  FILE NAME: R105-120.INP
  TIME/DATE OF STUDY: 13: 3   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  NATURAL POOR COVER
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =   4620.00
  DOWNSTREAM ELEVATION(FEET) =   4600.00
  ELEVATION DIFFERENCE(FEET) =     20.00
  TC(MIN.) =  .525*[( 1000.00** 3.00)/(    20.00)]** .20 =   18.195
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.089
  SOIL CLASSIFICATION IS "C"
  NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
  SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA RUNOFF(CFS) =     26.18
  TOTAL AREA(ACRES) =     10.00   PEAK FLOW RATE(CFS) =     26.18

**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   4600.00
  DOWNSTREAM NODE ELEVATION =   4340.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  4700.00
  CHANNEL SLOPE =   .0553
  CHANNEL FLOW THRU SUBAREA(CFS) =     26.18
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0553 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   3.91 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  20.05   TC(MIN.) =  38.25

**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.837
  SOIL CLASSIFICATION IS "B"
  NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .2700
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .27
  SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA AREA(ACRES) =   24.80     SUBAREA RUNOFF(CFS) =   34.97
  EFFECTIVE AREA(ACRES) =   34.80   AREA-AVERAGED Fm(INCH/HR) =   .24
  AREA-AVERAGED Fp(INCH/HR) =   .24  AREA-AVERAGED Ap =  1.00
  TOTAL AREA(ACRES) =   34.80       PEAK FLOW RATE(CFS) =   49.87
  TC(MIN) =  38.25

**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.837
  SOIL CLASSIFICATION IS "C"
```

```
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   18.00     SUBAREA RUNOFF(CFS) =   26.84
 EFFECTIVE AREA(ACRES) =   52.80   AREA-AVERAGED Fm(INCH/HR) =   .22
 AREA-AVERAGED Fp(INCH/HR) =   .22  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   52.80       PEAK FLOW RATE(CFS) =   76.71
 TC(MIN) =  38.25

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.02 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =  38.25
 RAINFALL INTENSITY(INCH/HR) =   1.84
 AREA-AVERAGED Fm(INCH/HR) =   .22
 AREA-AVERAGED Fp(INCH/HR) =   .22
 AREA-AVERAGED Ap =  1.00
 EFFECTIVE STREAM AREA(ACRES) =   52.80
 TOTAL STREAM AREA(ACRES) =   52.80
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     76.71

****************************************************************************
 FLOW PROCESS FROM NODE     1.20 TO NODE     1.21 IS CODE = 2.1
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
 NATURAL POOR COVER
 TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   600.00
 UPSTREAM ELEVATION(FEET) =   4640.00
 DOWNSTREAM ELEVATION(FEET) =   4560.00
 ELEVATION DIFFERENCE(FEET) =     80.00
 TC(MIN.) =  .525*[(  600.00** 3.00)/(    80.00)]** .20 =   10.149
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.648
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA RUNOFF(CFS) =     70.18
 TOTAL AREA(ACRES) =     17.45   PEAK FLOW RATE(CFS) =     70.18

****************************************************************************
 FLOW PROCESS FROM NODE     1.21 TO NODE     1.22 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4560.00
 DOWNSTREAM NODE ELEVATION =   4440.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2900.00
 CHANNEL SLOPE =   .0414
 CHANNEL FLOW THRU SUBAREA(CFS) =     70.18
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0414 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   4.69 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  10.30   TC(MIN.) =  20.45

****************************************************************************
 FLOW PROCESS FROM NODE     1.21 TO NODE     1.22 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.847
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =  106.50     SUBAREA RUNOFF(CFS) =  255.59
 EFFECTIVE AREA(ACRES) =  123.95   AREA-AVERAGED Fm(INCH/HR) =   .18
 AREA-AVERAGED Fp(INCH/HR) =   .18  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =  123.95       PEAK FLOW RATE(CFS) =  297.47
 TC(MIN) =  20.45

****************************************************************************
 FLOW PROCESS FROM NODE     1.21 TO NODE     1.22 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.847
 SOIL CLASSIFICATION IS "B"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .2700
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .27
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   10.10     SUBAREA RUNOFF(CFS) =   23.42
 EFFECTIVE AREA(ACRES) =  134.05   AREA-AVERAGED Fm(INCH/HR) =   .19
 AREA-AVERAGED Fp(INCH/HR) =   .19  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =  134.05       PEAK FLOW RATE(CFS) =  320.89
 TC(MIN) =  20.45

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

```
 FLOW PROCESS FROM NODE     1.22 TO NODE     1.02 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4440.00
 DOWNSTREAM NODE ELEVATION =   4340.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2300.00
 CHANNEL SLOPE =   .0435
 CHANNEL FLOW THRU SUBAREA(CFS) =    320.89
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0435 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   7.98 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   4.80   TC(MIN.) =  25.25

****************************************************************************
 FLOW PROCESS FROM NODE     1.22 TO NODE     1.02 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.456
 SOIL CLASSIFICATION IS "B"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .2700
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .27
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   80.80     SUBAREA RUNOFF(CFS) =  158.94
 EFFECTIVE AREA(ACRES) =   214.85   AREA-AVERAGED Fm(INCH/HR) =   .22
 AREA-AVERAGED Fp(INCH/HR) =   .22  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   214.85      PEAK FLOW RATE(CFS) =  432.67
 TC(MIN) =  25.25

****************************************************************************
 FLOW PROCESS FROM NODE     1.22 TO NODE     1.02 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.456
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   28.46     SUBAREA RUNOFF(CFS) =   58.29
 EFFECTIVE AREA(ACRES) =   243.31   AREA-AVERAGED Fm(INCH/HR) =   .21
 AREA-AVERAGED Fp(INCH/HR) =   .21  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   243.31      PEAK FLOW RATE(CFS) =  490.96
 TC(MIN) =  25.25

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.02 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =  25.25
 RAINFALL INTENSITY(INCH/HR) =   2.46
 AREA-AVERAGED Fm(INCH/HR) =   .21
 AREA-AVERAGED Fp(INCH/HR) =   .21
 AREA-AVERAGED Ap =  1.00
 EFFECTIVE STREAM AREA(ACRES) =  243.31
 TOTAL STREAM AREA(ACRES) =  243.31
 PEAK FLOW RATE(CFS) AT CONFLUENCE =    490.96

****************************************************************************
 FLOW PROCESS FROM NODE     1.30 TO NODE     1.31 IS CODE = 2.1
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
 NATURAL POOR COVER
 TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   600.00
 UPSTREAM ELEVATION(FEET) =   4600.00
 DOWNSTREAM ELEVATION(FEET) =   4560.00
 ELEVATION DIFFERENCE(FEET) =     40.00
 TC(MIN.) =  .525*[(  600.00** 3.00)/(    40.00)]** .20 =   11.658
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.219
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA RUNOFF(CFS) =     36.35
 TOTAL AREA(ACRES) =     10.00   PEAK FLOW RATE(CFS) =     36.35

****************************************************************************
 FLOW PROCESS FROM NODE     1.31 TO NODE     1.32 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4560.00
 DOWNSTREAM NODE ELEVATION =   4440.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2600.00
 CHANNEL SLOPE =   .0462
 CHANNEL FLOW THRU SUBAREA(CFS) =     36.35
 SLOPE ADJUSTMENT CURVE USED:
```

```
 EFFECTIVE SLOPE = .0462 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   3.98 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  10.89   TC(MIN.) =  22.55

****************************************************************************
 FLOW PROCESS FROM NODE     1.31 TO NODE     1.32 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.659
 SOIL CLASSIFICATION IS "B"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .2700
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .27
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   37.64     SUBAREA RUNOFF(CFS) =   80.92
 EFFECTIVE AREA(ACRES) =   47.64   AREA-AVERAGED Fm(INCH/HR) =   .25
 AREA-AVERAGED Fp(INCH/HR) =   .25  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   47.64       PEAK FLOW RATE(CFS) =  103.23
 TC(MIN) =  22.55

****************************************************************************
 FLOW PROCESS FROM NODE     1.31 TO NODE     1.32 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.659
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =    9.18     SUBAREA RUNOFF(CFS) =   20.48
 EFFECTIVE AREA(ACRES) =   56.82   AREA-AVERAGED Fm(INCH/HR) =   .24
 AREA-AVERAGED Fp(INCH/HR) =   .24  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   56.82       PEAK FLOW RATE(CFS) =  123.71
 TC(MIN) =  22.55

****************************************************************************
 FLOW PROCESS FROM NODE     1.32 TO NODE     1.02 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4440.00
 DOWNSTREAM NODE ELEVATION =   4340.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3150.00
 CHANNEL SLOPE =   .0317
 CHANNEL FLOW THRU SUBAREA(CFS) =   123.71
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0317 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   4.96 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  10.58   TC(MIN.) =  33.12

****************************************************************************
 FLOW PROCESS FROM NODE     1.32 TO NODE     1.02 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.031
 SOIL CLASSIFICATION IS "B"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .2700
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .27
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   57.85     SUBAREA RUNOFF(CFS) =   91.69
 EFFECTIVE AREA(ACRES) =  114.67   AREA-AVERAGED Fm(INCH/HR) =   .25
 AREA-AVERAGED Fp(INCH/HR) =   .25  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =  114.67       PEAK FLOW RATE(CFS) =  183.30
 TC(MIN) =  33.12

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.02 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
 TIME OF CONCENTRATION(MIN.) =  33.12
 RAINFALL INTENSITY(INCH/HR) =   2.03
 AREA-AVERAGED Fm(INCH/HR) =   .25
 AREA-AVERAGED Fp(INCH/HR) =   .25
 AREA-AVERAGED Ap =  1.00
 EFFECTIVE STREAM AREA(ACRES) =  114.67
 TOTAL STREAM AREA(ACRES) =  114.67
 PEAK FLOW RATE(CFS) AT CONFLUENCE =   183.30

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  3 STREAMS.

 ** PEAK FLOW RATE TABLE **
      Q       Tc     Intensity     Fp       Ap       Fm          Ae
    (CFS)   (MIN.)   (INCH/HR)  (INCH/HR)          (INCH/HR)   (ACRES)
1   734.22   25.25      2.456       .22   1.00        .22       365.61
2   595.33   38.25      1.837       .23   1.00        .23       410.78
3   655.73   33.12      2.031       .23   1.00        .23       403.71
```

```
 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =    734.22   Tc(MIN.) =   25.255
 EFFECTIVE AREA(ACRES) =    365.61  AREA-AVERAGED Fm(INCH/HR) =    .22
 AREA-AVERAGED Fp(INCH/HR) =    .22  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =    410.78

 ****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4340.00
 DOWNSTREAM NODE ELEVATION =   4300.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =   600.00
 CHANNEL SLOPE =   .0667
 CHANNEL FLOW THRU SUBAREA(CFS) =    734.22
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0667 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =  13.02 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =    .77   TC(MIN.) =  26.02

 ****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.405
 SOIL CLASSIFICATION IS "B"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .2700
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =    .27
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   76.20      SUBAREA RUNOFF(CFS) =  146.40
 EFFECTIVE AREA(ACRES) =   441.81   AREA-AVERAGED Fm(INCH/HR) =    .23
 AREA-AVERAGED Fp(INCH/HR) =    .23  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   486.98       PEAK FLOW RATE(CFS) =  863.84
 TC(MIN) =  26.02

 ****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.405
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =    .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   15.60      SUBAREA RUNOFF(CFS) =   31.23
 EFFECTIVE AREA(ACRES) =   457.41   AREA-AVERAGED Fm(INCH/HR) =    .23
 AREA-AVERAGED Fp(INCH/HR) =    .23  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   502.58       PEAK FLOW RATE(CFS) =  895.08
 TC(MIN) =  26.02

 ****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4300.00
 DOWNSTREAM NODE ELEVATION =   4220.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2700.00
 CHANNEL SLOPE =   .0296
 CHANNEL FLOW THRU SUBAREA(CFS) =    895.08
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0296 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   9.27 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   4.86   TC(MIN.) =  30.88

 ****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.133
 SOIL CLASSIFICATION IS "B"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .2700
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =    .27
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =  118.45      SUBAREA RUNOFF(CFS) =  198.64
 EFFECTIVE AREA(ACRES) =   575.86   AREA-AVERAGED Fm(INCH/HR) =    .24
 AREA-AVERAGED Fp(INCH/HR) =    .24  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   621.03       PEAK FLOW RATE(CFS) =  982.00
 TC(MIN) =  30.88

 ****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4220.00
 DOWNSTREAM NODE ELEVATION =   4120.00
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```
CHANNEL LENGTH THRU SUBAREA(FEET) =  2750.00
CHANNEL SLOPE =    .0364
CHANNEL FLOW THRU SUBAREA(CFS) =     982.00
SLOPE ADJUSTMENT CURVE USED:
EFFECTIVE SLOPE = .0364 (PER LACFCD HYDROLOGY MANUAL)
FLOW VELOCITY(FEET/SEC) =  10.59 (PER LACFCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) =   4.33   TC(MIN.) =  35.21

****************************************************************************
 FLOW PROCESS FROM NODE      1.04 TO NODE      1.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.946
 SOIL CLASSIFICATION IS "B"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .2700
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =    .27
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   85.39       SUBAREA RUNOFF(CFS) =  128.81
 EFFECTIVE AREA(ACRES) =   661.25    AREA-AVERAGED Fm(INCH/HR) =    .24
 AREA-AVERAGED Fp(INCH/HR) =    .24  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   706.42        PEAK FLOW RATE(CFS) = 1013.82
 TC(MIN) =  35.21
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    706.42  TC(MIN.) =      35.21
 EFFECTIVE AREA(ACRES) =    661.25  AREA-AVERAGED Fm(INCH/HR)=    .24
 AREA-AVERAGED Fp(INCH/HR) =    .24  AREA-AVERAGED Ap =  1.00
 PEAK FLOW RATE(CFS)    =   1013.82

 ** PEAK FLOW RATE TABLE **
        Q        Tc      Intensity     Fp        Ap       Fm          Ae
      (CFS)    (MIN.)   (INCH/HR)  (INCH/HR)          (INCH/HR)   (ACRES)
 1   1013.82    35.21      1.946       .24    1.00        .24       661.25
 2    903.63    43.49      1.678       .24    1.00        .24       699.35
 3    828.14    48.95      1.545       .24    1.00        .24       706.42
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
           RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                            DESIGN NODE 1.20                            *
*             TIME OF CONCENTRATION AT NODE 2.07, WATERSHED 2            *
*                                                                        *
 **************************************************************************

  FILE NAME: R207-120.INP
  TIME/DATE OF STUDY: 13: 6   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                  --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     2.00 TO NODE     2.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  NATURAL POOR COVER
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =   4640.00
  DOWNSTREAM ELEVATION(FEET) =   4580.00
  ELEVATION DIFFERENCE(FEET) =     60.00
  TC(MIN.) =  .525*[( 1000.00** 3.00)/(    60.00)]** .20 =   14.606
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.603
  SOIL CLASSIFICATION IS "C"
  NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
  SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA RUNOFF(CFS) =     16.02
  TOTAL AREA(ACRES) =      5.20   PEAK FLOW RATE(CFS) =     16.02


**************************************************************************
  FLOW PROCESS FROM NODE     2.01 TO NODE     2.02 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   4580.00
  DOWNSTREAM NODE ELEVATION =   4440.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1500.00
  CHANNEL SLOPE =   .0933
  CHANNEL FLOW THRU SUBAREA(CFS) =     16.02
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0933 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   4.31 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   5.80   TC(MIN.) =  20.41


**************************************************************************
  FLOW PROCESS FROM NODE     2.01 TO NODE     2.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.851
  SOIL CLASSIFICATION IS "C"
  NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
  SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA AREA(ACRES) =   34.00     SUBAREA RUNOFF(CFS) =   81.72
  EFFECTIVE AREA(ACRES) =   39.20   AREA-AVERAGED Fm(INCH/HR) =   .18
  AREA-AVERAGED Fp(INCH/HR) =   .18  AREA-AVERAGED Ap =  1.00
  TOTAL AREA(ACRES) =    39.20      PEAK FLOW RATE(CFS) =   94.22
  TC(MIN) =  20.41


**************************************************************************
  FLOW PROCESS FROM NODE     2.02 TO NODE     2.03 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
```

```
 UPSTREAM NODE ELEVATION =   4440.00
 DOWNSTREAM NODE ELEVATION =   4340.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2100.00
 CHANNEL SLOPE =   .0476
 CHANNEL FLOW THRU SUBAREA(CFS) =     94.22
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0476 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   5.55 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   6.30   TC(MIN.) =  26.71

****************************************************************************
 FLOW PROCESS FROM NODE     2.02 TO NODE     2.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.361
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   27.50     SUBAREA RUNOFF(CFS) =   53.98
 EFFECTIVE AREA(ACRES) =   66.70   AREA-AVERAGED Fm(INCH/HR) =   .18
 AREA-AVERAGED Fp(INCH/HR) =   .18  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =    66.70      PEAK FLOW RATE(CFS) =  130.93
 TC(MIN) =  26.71

****************************************************************************
 FLOW PROCESS FROM NODE     2.02 TO NODE     2.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.361
 SOIL CLASSIFICATION IS "A"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .4100
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .41
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   12.90     SUBAREA RUNOFF(CFS) =   22.65
 EFFECTIVE AREA(ACRES) =   79.60   AREA-AVERAGED Fm(INCH/HR) =   .22
 AREA-AVERAGED Fp(INCH/HR) =   .22  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =    79.60      PEAK FLOW RATE(CFS) =  153.59
 TC(MIN) =  26.71

****************************************************************************
 FLOW PROCESS FROM NODE     2.03 TO NODE     2.04 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4340.00
 DOWNSTREAM NODE ELEVATION =   4240.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3200.00
 CHANNEL SLOPE =   .0313
 CHANNEL FLOW THRU SUBAREA(CFS) =    153.59
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0313 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   5.29 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  10.08   TC(MIN.) =  36.79

****************************************************************************
 FLOW PROCESS FROM NODE     2.03 TO NODE     2.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.887
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =    6.00     SUBAREA RUNOFF(CFS) =    9.22
 EFFECTIVE AREA(ACRES) =   85.60   AREA-AVERAGED Fm(INCH/HR) =   .21
 AREA-AVERAGED Fp(INCH/HR) =   .21  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =    85.60      PEAK FLOW RATE(CFS) =  153.59
 TC(MIN) =  36.79

****************************************************************************
 FLOW PROCESS FROM NODE     2.03 TO NODE     2.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.887
 SOIL CLASSIFICATION IS "A"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .4100
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .41
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   40.80     SUBAREA RUNOFF(CFS) =   54.24
 EFFECTIVE AREA(ACRES) =  126.40   AREA-AVERAGED Fm(INCH/HR) =   .28
 AREA-AVERAGED Fp(INCH/HR) =   .28  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   126.40      PEAK FLOW RATE(CFS) =  183.09
 TC(MIN) =  36.79

****************************************************************************
 FLOW PROCESS FROM NODE     2.04 TO NODE     2.04 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
```

```
==========================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =  36.79
  RAINFALL INTENSITY(INCH/HR) =   1.89
  AREA-AVERAGED Fm(INCH/HR) =   .28
  AREA-AVERAGED Fp(INCH/HR) =   .28
  AREA-AVERAGED Ap =  1.00
  EFFECTIVE STREAM AREA(ACRES) =  126.40
  TOTAL STREAM AREA(ACRES) =  126.40
  PEAK FLOW RATE(CFS) AT CONFLUENCE =    183.09


****************************************************************************
  FLOW PROCESS FROM NODE     2.20 TO NODE     2.21 IS CODE = 2.1
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  NATURAL POOR COVER
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =   4540.00
  DOWNSTREAM ELEVATION(FEET) =   4480.00
  ELEVATION DIFFERENCE(FEET) =     60.00
  TC(MIN.) =  .525*[( 1000.00** 3.00)/(    60.00)]** .20 =   14.606
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.603
  SOIL CLASSIFICATION IS "C"
  NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
  SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA RUNOFF(CFS) =     13.25
  TOTAL AREA(ACRES) =      4.30   PEAK FLOW RATE(CFS) =     13.25


****************************************************************************
  FLOW PROCESS FROM NODE     2.21 TO NODE     2.22 IS CODE = 5.3
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  UPSTREAM NODE ELEVATION =   4480.00
  DOWNSTREAM NODE ELEVATION =   4340.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2000.00
  CHANNEL SLOPE =   .0700
  CHANNEL FLOW THRU SUBAREA(CFS) =     13.25
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0700 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   3.50 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   9.52   TC(MIN.) =  24.12


****************************************************************************
  FLOW PROCESS FROM NODE     2.21 TO NODE     2.22 IS CODE =   8
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.536
  SOIL CLASSIFICATION IS "A"
  NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .4100
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .41
  SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA AREA(ACRES) =   44.80     SUBAREA RUNOFF(CFS) =   85.71
  EFFECTIVE AREA(ACRES) =   49.10   AREA-AVERAGED Fm(INCH/HR) =   .39
  AREA-AVERAGED Fp(INCH/HR) =   .39  AREA-AVERAGED Ap =  1.00
  TOTAL AREA(ACRES) =   49.10       PEAK FLOW RATE(CFS) =   94.83
  TC(MIN) =  24.12


****************************************************************************
  FLOW PROCESS FROM NODE     2.21 TO NODE     2.22 IS CODE =   8
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.536
  SOIL CLASSIFICATION IS "C"
  NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
  SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA AREA(ACRES) =    2.00     SUBAREA RUNOFF(CFS) =    4.24
  EFFECTIVE AREA(ACRES) =   51.10   AREA-AVERAGED Fm(INCH/HR) =   .38
  AREA-AVERAGED Fp(INCH/HR) =   .38  AREA-AVERAGED Ap =  1.00
  TOTAL AREA(ACRES) =   51.10       PEAK FLOW RATE(CFS) =   99.07
  TC(MIN) =  24.12


****************************************************************************
  FLOW PROCESS FROM NODE     2.22 TO NODE     2.04 IS CODE = 5.3
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  UPSTREAM NODE ELEVATION =   4340.00
  DOWNSTREAM NODE ELEVATION =   4240.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  3200.00
  CHANNEL SLOPE =   .0313
  CHANNEL FLOW THRU SUBAREA(CFS) =     99.07
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0313 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   4.57 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  11.66   TC(MIN.) =  35.78
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     2.22 TO NODE     2.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.924
 SOIL CLASSIFICATION IS "A"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .4100
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .41
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   69.80     SUBAREA RUNOFF(CFS) =   95.12
 EFFECTIVE AREA(ACRES) =   120.90   AREA-AVERAGED Fm(INCH/HR) =   .40
 AREA-AVERAGED Fp(INCH/HR) =   .40  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   120.90       PEAK FLOW RATE(CFS) =  166.06
 TC(MIN) =  35.78


****************************************************************************
 FLOW PROCESS FROM NODE     2.04 TO NODE     2.04 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =  35.78
 RAINFALL INTENSITY(INCH/HR) =  1.92
 AREA-AVERAGED Fm(INCH/HR) =   .40
 AREA-AVERAGED Fp(INCH/HR) =   .40
 AREA-AVERAGED Ap =  1.00
 EFFECTIVE STREAM AREA(ACRES) =  120.90
 TOTAL STREAM AREA(ACRES) =  120.90
 PEAK FLOW RATE(CFS) AT CONFLUENCE =    166.06

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
      Q        Tc      Intensity     Fp        Ap       Fm          Ae
    (CFS)    (MIN.)   (INCH/HR)  (INCH/HR)          (INCH/HR)   (ACRES)
1   345.13    36.79      1.887       .34   1.00         .34       247.30
2   348.23    35.78      1.924       .34   1.00         .34       243.85

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =    348.23   Tc(MIN.) =   35.784
 EFFECTIVE AREA(ACRES) =    243.85  AREA-AVERAGED Fm(INCH/HR) =   .34
 AREA-AVERAGED Fp(INCH/HR) =   .34  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =    247.30


****************************************************************************
 FLOW PROCESS FROM NODE     2.04 TO NODE     2.05 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4240.00
 DOWNSTREAM NODE ELEVATION =   4120.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4200.00
 CHANNEL SLOPE =   .0286
 CHANNEL FLOW THRU SUBAREA(CFS) =    348.23
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0286 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   6.65 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  10.53   TC(MIN.) =  46.32


****************************************************************************
 FLOW PROCESS FROM NODE     2.04 TO NODE     2.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.606
 SOIL CLASSIFICATION IS "A"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .4100
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .41
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =  156.10     SUBAREA RUNOFF(CFS) =  168.06
 EFFECTIVE AREA(ACRES) =   399.95   AREA-AVERAGED Fm(INCH/HR) =   .37
 AREA-AVERAGED Fp(INCH/HR) =   .37  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   403.40       PEAK FLOW RATE(CFS) =  446.52
 TC(MIN) =  46.32


****************************************************************************
 FLOW PROCESS FROM NODE     2.04 TO NODE     2.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.606
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   27.60     SUBAREA RUNOFF(CFS) =   20.62
 EFFECTIVE AREA(ACRES) =   427.55   AREA-AVERAGED Fm(INCH/HR) =   .39
 AREA-AVERAGED Fp(INCH/HR) =   .40  AREA-AVERAGED Ap =   .99
 TOTAL AREA(ACRES) =   431.00       PEAK FLOW RATE(CFS) =  467.14
```

```
 TC(MIN) =  46.32

****************************************************************************
 FLOW PROCESS FROM NODE     2.04 TO NODE     2.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.606
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   32.10     SUBAREA RUNOFF(CFS) =   41.20
 EFFECTIVE AREA(ACRES) =   459.65   AREA-AVERAGED Fm(INCH/HR) =   .38
 AREA-AVERAGED Fp(INCH/HR) =   .38  AREA-AVERAGED Ap =   .99
 TOTAL AREA(ACRES) =   463.10      PEAK FLOW RATE(CFS) =  508.35
 TC(MIN) =  46.32

****************************************************************************
 FLOW PROCESS FROM NODE     2.05 TO NODE     2.06 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4120.00
 DOWNSTREAM NODE ELEVATION =   4080.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  1700.00
 CHANNEL SLOPE =   .0235
 CHANNEL FLOW THRU SUBAREA(CFS) =    508.35
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0235 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   6.84 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   4.14   TC(MIN.) =  50.46

****************************************************************************
 FLOW PROCESS FROM NODE     2.05 TO NODE     2.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.513
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   49.50     SUBAREA RUNOFF(CFS) =   59.37
 EFFECTIVE AREA(ACRES) =   509.15   AREA-AVERAGED Fm(INCH/HR) =   .36
 AREA-AVERAGED Fp(INCH/HR) =   .36  AREA-AVERAGED Ap =   .99
 TOTAL AREA(ACRES) =   512.60      PEAK FLOW RATE(CFS) =  529.06
 TC(MIN) =  50.46

****************************************************************************
 FLOW PROCESS FROM NODE     2.05 TO NODE     2.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.513
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   89.10     SUBAREA RUNOFF(CFS) =   59.08
 EFFECTIVE AREA(ACRES) =   598.25   AREA-AVERAGED Fm(INCH/HR) =   .42
 AREA-AVERAGED Fp(INCH/HR) =   .44  AREA-AVERAGED Ap =   .96
 TOTAL AREA(ACRES) =   601.70      PEAK FLOW RATE(CFS) =  588.14
 TC(MIN) =  50.46

****************************************************************************
 FLOW PROCESS FROM NODE     2.05 TO NODE     2.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.513
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =    4.20     SUBAREA RUNOFF(CFS) =    5.04
 EFFECTIVE AREA(ACRES) =   602.45   AREA-AVERAGED Fm(INCH/HR) =   .42
 AREA-AVERAGED Fp(INCH/HR) =   .44  AREA-AVERAGED Ap =   .96
 TOTAL AREA(ACRES) =   605.90      PEAK FLOW RATE(CFS) =  593.17
 TC(MIN) =  50.46

****************************************************************************
 FLOW PROCESS FROM NODE     2.06 TO NODE     2.07 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4080.00
 DOWNSTREAM NODE ELEVATION =   3930.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  5600.00
 CHANNEL SLOPE =   .0268
 CHANNEL FLOW THRU SUBAREA(CFS) =    593.17
 SLOPE ADJUSTMENT CURVE USED:
```

```
 EFFECTIVE SLOPE = .0268 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   7.68 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  12.15   TC(MIN.) =  62.60

****************************************************************************
 FLOW PROCESS FROM NODE     2.06 TO NODE     2.07 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.301
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  150.60     SUBAREA RUNOFF(CFS) =   71.13
 EFFECTIVE AREA(ACRES) =  753.05   AREA-AVERAGED Fm(INCH/HR) =   .49
 AREA-AVERAGED Fp(INCH/HR) =   .53  AREA-AVERAGED Ap =   .93
 TOTAL AREA(ACRES) =  756.50       PEAK FLOW RATE(CFS) =  593.17
 TC(MIN) =  62.60

****************************************************************************
 FLOW PROCESS FROM NODE     2.06 TO NODE     2.07 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.301
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   33.00     SUBAREA RUNOFF(CFS) =   25.33
 EFFECTIVE AREA(ACRES) =  786.05   AREA-AVERAGED Fm(INCH/HR) =   .49
 AREA-AVERAGED Fp(INCH/HR) =   .53  AREA-AVERAGED Ap =   .92
 TOTAL AREA(ACRES) =  789.50       PEAK FLOW RATE(CFS) =  593.17
 TC(MIN) =  62.60
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    789.50  TC(MIN.) =     62.60
 EFFECTIVE AREA(ACRES) =    786.05  AREA-AVERAGED Fm(INCH/HR)=   .49
 AREA-AVERAGED Fp(INCH/HR) =   .53  AREA-AVERAGED Ap =   .92
 PEAK FLOW RATE(CFS)    =    593.17

 ** PEAK FLOW RATE TABLE **
        Q        Tc     Intensity     Fp       Ap       Fm          Ae
     (CFS)    (MIN.)   (INCH/HR)  (INCH/HR)          (INCH/HR)   (ACRES)
 1   593.17    62.60      1.301       .53     .92        .49       786.05
 2   585.17    63.71      1.285       .53     .92        .49       789.50
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*             TIME OF CONCENTRATION AT NODE 3.07, WATERSHED 3            *
*                                                                        *
 **************************************************************************

  FILE NAME: R307-120.INP
  TIME/DATE OF STUDY: 13:10   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE      3.00 TO NODE      3.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 1 DWELLING/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =   4000.00
  DOWNSTREAM ELEVATION(FEET) =   3960.00
  ELEVATION DIFFERENCE(FEET) =     40.00
  TC(MIN.) =  .469*[( 1000.00** 3.00)/(    40.00)]** .20 =   14.150
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.684
  SOIL CLASSIFICATION IS "A"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA RUNOFF(CFS) =      8.11
  TOTAL AREA(ACRES) =      3.10   PEAK FLOW RATE(CFS) =      8.11


**************************************************************************
  FLOW PROCESS FROM NODE      3.01 TO NODE      3.02 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3960.00
  DOWNSTREAM NODE ELEVATION =   3900.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2400.00
  CHANNEL SLOPE =    .0250
  CHANNEL FLOW THRU SUBAREA(CFS) =      8.11
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0250 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   1.78 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  22.50   TC(MIN.) =  36.65


**************************************************************************
  FLOW PROCESS FROM NODE      3.01 TO NODE      3.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.892
  SOIL CLASSIFICATION IS "A"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =   16.80      SUBAREA RUNOFF(CFS) =   16.88
  EFFECTIVE AREA(ACRES) =   19.90   AREA-AVERAGED Fm(INCH/HR) =   .78
  AREA-AVERAGED Fp(INCH/HR) =   .97  AREA-AVERAGED Ap =   .80
  TOTAL AREA(ACRES) =    19.90       PEAK FLOW RATE(CFS) =   19.99
  TC(MIN) =  36.65


 **************************************************************************
  FLOW PROCESS FROM NODE      3.02 TO NODE      3.03 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
```

```
 UPSTREAM NODE ELEVATION =   3900.00
 DOWNSTREAM NODE ELEVATION =   3820.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2800.00
 CHANNEL SLOPE =   .0286
 CHANNEL FLOW THRU SUBAREA(CFS) =     19.99
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0286 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   2.57 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  18.18   TC(MIN.) =  54.83

****************************************************************************
 FLOW PROCESS FROM NODE     3.02 TO NODE     3.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.427
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   62.40     SUBAREA RUNOFF(CFS) =   36.57
 EFFECTIVE AREA(ACRES) =   82.30   AREA-AVERAGED Fm(INCH/HR) =   .78
 AREA-AVERAGED Fp(INCH/HR) =   .97  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =    82.30      PEAK FLOW RATE(CFS) =   48.23
 TC(MIN) =  54.83

****************************************************************************
 FLOW PROCESS FROM NODE     3.02 TO NODE     3.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.427
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =    4.90     SUBAREA RUNOFF(CFS) =    4.32
 EFFECTIVE AREA(ACRES) =   87.20   AREA-AVERAGED Fm(INCH/HR) =   .76
 AREA-AVERAGED Fp(INCH/HR) =   .95  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =    87.20      PEAK FLOW RATE(CFS) =   52.55
 TC(MIN) =  54.83

****************************************************************************
 FLOW PROCESS FROM NODE     3.03 TO NODE     3.04 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3820.00
 DOWNSTREAM NODE ELEVATION =   3745.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3400.00
 CHANNEL SLOPE =   .0221
 CHANNEL FLOW THRU SUBAREA(CFS) =     52.55
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0221 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   3.11 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  18.21   TC(MIN.) =  73.05

****************************************************************************
 FLOW PROCESS FROM NODE     3.03 TO NODE     3.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.168
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   75.30     SUBAREA RUNOFF(CFS) =   48.77
 EFFECTIVE AREA(ACRES) =  162.50   AREA-AVERAGED Fm(INCH/HR) =   .61
 AREA-AVERAGED Fp(INCH/HR) =   .77  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   162.50      PEAK FLOW RATE(CFS) =   80.95
 TC(MIN) =  73.05

****************************************************************************
 FLOW PROCESS FROM NODE     3.03 TO NODE     3.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.168
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   12.50     SUBAREA RUNOFF(CFS) =    4.41
 EFFECTIVE AREA(ACRES) =  175.00   AREA-AVERAGED Fm(INCH/HR) =   .63
 AREA-AVERAGED Fp(INCH/HR) =   .78  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   175.00      PEAK FLOW RATE(CFS) =   85.35
 TC(MIN) =  73.05

****************************************************************************
 FLOW PROCESS FROM NODE     3.03 TO NODE     3.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.168
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) = .6000
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =    2.80     SUBAREA RUNOFF(CFS) =    1.43
 EFFECTIVE AREA(ACRES) =   177.80   AREA-AVERAGED Fm(INCH/HR) =   .63
 AREA-AVERAGED Fp(INCH/HR) =   .78  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   177.80       PEAK FLOW RATE(CFS) =   86.78
 TC(MIN) =  73.05

****************************************************************************
 FLOW PROCESS FROM NODE     3.04 TO NODE     3.05 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3745.00
 DOWNSTREAM NODE ELEVATION =   3600.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3400.00
 CHANNEL SLOPE =   .0426
 CHANNEL FLOW THRU SUBAREA(CFS) =     86.78
 FLOW VELOCITY(FEET/SEC) =   9.40 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   6.03   TC(MIN.) =  79.08

****************************************************************************
 FLOW PROCESS FROM NODE     3.04 TO NODE     3.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.105
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .6000
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =    5.00     SUBAREA RUNOFF(CFS) =    2.27
 EFFECTIVE AREA(ACRES) =   182.80   AREA-AVERAGED Fm(INCH/HR) =   .62
 AREA-AVERAGED Fp(INCH/HR) =   .78  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   182.80       PEAK FLOW RATE(CFS) =   86.78
 TC(MIN) =  79.08

****************************************************************************
 FLOW PROCESS FROM NODE     3.04 TO NODE     3.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.105
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   73.00     SUBAREA RUNOFF(CFS) =   43.13
 EFFECTIVE AREA(ACRES) =   255.80   AREA-AVERAGED Fm(INCH/HR) =   .57
 AREA-AVERAGED Fp(INCH/HR) =   .72  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   255.80       PEAK FLOW RATE(CFS) =  122.09
 TC(MIN) =  79.08

****************************************************************************
 FLOW PROCESS FROM NODE     3.05 TO NODE     3.06 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3600.00
 DOWNSTREAM NODE ELEVATION =   3580.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3600.00
 CHANNEL SLOPE =   .0056
 CHANNEL FLOW THRU SUBAREA(CFS) =    122.09
 FLOW VELOCITY(FEET/SEC) =   3.76 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  15.97   TC(MIN.) =  95.04

****************************************************************************
 FLOW PROCESS FROM NODE     3.05 TO NODE     3.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =   .971
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .6000
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   43.10     SUBAREA RUNOFF(CFS) =   14.39
 EFFECTIVE AREA(ACRES) =   298.90   AREA-AVERAGED Fm(INCH/HR) =   .58
 AREA-AVERAGED Fp(INCH/HR) =   .72  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   298.90       PEAK FLOW RATE(CFS) =  122.09
 TC(MIN) =  95.04

****************************************************************************
 FLOW PROCESS FROM NODE     3.05 TO NODE     3.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =   .971
```

```
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   73.50     SUBAREA RUNOFF(CFS) =   34.60
 EFFECTIVE AREA(ACRES) =   372.40   AREA-AVERAGED Fm(INCH/HR) =   .55
 AREA-AVERAGED Fp(INCH/HR) =   .69  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   372.40      PEAK FLOW RATE(CFS) =  140.37
 TC(MIN) =  95.04

****************************************************************************
 FLOW PROCESS FROM NODE     3.06 TO NODE     3.07 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3580.00
 DOWNSTREAM NODE ELEVATION =   3470.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4600.00
 CHANNEL SLOPE =   .0239
 CHANNEL FLOW THRU SUBAREA(CFS) =   140.37
 FLOW VELOCITY(FEET/SEC) =   8.13 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   9.43   TC(MIN.) = 104.47

****************************************************************************
 FLOW PROCESS FROM NODE     3.06 TO NODE     3.07 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =   .909
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  312.20     SUBAREA RUNOFF(CFS) =  129.50
 EFFECTIVE AREA(ACRES) =   684.60   AREA-AVERAGED Fm(INCH/HR) =   .50
 AREA-AVERAGED Fp(INCH/HR) =   .63  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   684.60      PEAK FLOW RATE(CFS) =  249.03
 TC(MIN) = 104.47
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =    684.60  TC(MIN.) =    104.47
 EFFECTIVE AREA(ACRES) =    684.60  AREA-AVERAGED Fm(INCH/HR)=   .50
 AREA-AVERAGED Fp(INCH/HR) =   .63  AREA-AVERAGED Ap =   .80
 PEAK FLOW RATE(CFS)   =    249.03
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*              TIME OF CONCENTRATION AT NODE 4.09, WATERSHED 4           *
*                                                                        *
 ************************************************************************

  FILE NAME: R409-120.INP
  TIME/DATE OF STUDY: 13:11   6/28/1992
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     4.00 TO NODE     4.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 1 DWELLING/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   700.00
  UPSTREAM ELEVATION(FEET) =   4055.00
  DOWNSTREAM ELEVATION(FEET) =   4030.00
  ELEVATION DIFFERENCE(FEET) =     25.00
  TC(MIN.) =  .469*[(  700.00** 3.00)/(    25.00)]** .20 =   12.550
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.006
  SOIL CLASSIFICATION IS "A"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA RUNOFF(CFS) =      8.72
  TOTAL AREA(ACRES) =      3.00   PEAK FLOW RATE(CFS) =      8.72


**************************************************************************
  FLOW PROCESS FROM NODE     4.01 TO NODE     4.02 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
========================================================================
  UPSTREAM NODE ELEVATION =   4030.00
  DOWNSTREAM NODE ELEVATION =   3950.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2700.00
  CHANNEL SLOPE =   .0296
  CHANNEL FLOW THRU SUBAREA(CFS) =      8.72
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0296 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   1.98 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  22.70   TC(MIN.) =  35.25


**************************************************************************
  FLOW PROCESS FROM NODE     4.01 TO NODE     4.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.945
  SOIL CLASSIFICATION IS "A"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =   24.80     SUBAREA RUNOFF(CFS) =   26.08
  EFFECTIVE AREA(ACRES) =   27.80   AREA-AVERAGED Fm(INCH/HR) =   .78
  AREA-AVERAGED Fp(INCH/HR) =   .97  AREA-AVERAGED Ap =   .80
  TOTAL AREA(ACRES) =   27.80       PEAK FLOW RATE(CFS) =   29.24
  TC(MIN) =  35.25


  **************************************************************************
  FLOW PROCESS FROM NODE     4.02 TO NODE     4.03 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
========================================================================
```

```
 UPSTREAM NODE ELEVATION =   3950.00
 DOWNSTREAM NODE ELEVATION =   3880.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2600.00
 CHANNEL SLOPE =   .0269
 CHANNEL FLOW THRU SUBAREA(CFS) =     29.24
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0269 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   2.83 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  15.33   TC(MIN.) =  50.57

****************************************************************************
 FLOW PROCESS FROM NODE     4.02 TO NODE     4.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.510
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   53.00      SUBAREA RUNOFF(CFS) =   35.03
 EFFECTIVE AREA(ACRES) =   80.80   AREA-AVERAGED Fm(INCH/HR) =   .78
 AREA-AVERAGED Fp(INCH/HR) =   .97  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   80.80       PEAK FLOW RATE(CFS) =   53.40
 TC(MIN) =  50.57

****************************************************************************
 FLOW PROCESS FROM NODE     4.03 TO NODE     4.04 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3880.00
 DOWNSTREAM NODE ELEVATION =   3820.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3000.00
 CHANNEL SLOPE =   .0200
 CHANNEL FLOW THRU SUBAREA(CFS) =     53.40
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0200 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   2.98 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  16.79   TC(MIN.) =  67.36

****************************************************************************
 FLOW PROCESS FROM NODE     4.03 TO NODE     4.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.236
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   35.80      SUBAREA RUNOFF(CFS) =   14.81
 EFFECTIVE AREA(ACRES) =   116.60   AREA-AVERAGED Fm(INCH/HR) =   .78
 AREA-AVERAGED Fp(INCH/HR) =   .97  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   116.60       PEAK FLOW RATE(CFS) =   53.40
 TC(MIN) =  67.36

****************************************************************************
 FLOW PROCESS FROM NODE     4.03 TO NODE     4.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.236
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   21.10      SUBAREA RUNOFF(CFS) =   14.96
 EFFECTIVE AREA(ACRES) =   137.70   AREA-AVERAGED Fm(INCH/HR) =   .73
 AREA-AVERAGED Fp(INCH/HR) =   .91  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   137.70       PEAK FLOW RATE(CFS) =   63.21
 TC(MIN) =  67.36

****************************************************************************
 FLOW PROCESS FROM NODE     4.04 TO NODE     4.05 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3820.00
 DOWNSTREAM NODE ELEVATION =   3740.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3200.00
 CHANNEL SLOPE =   .0250
 CHANNEL FLOW THRU SUBAREA(CFS) =     63.21
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0250 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   3.52 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  15.14   TC(MIN.) =  82.50

****************************************************************************
 FLOW PROCESS FROM NODE     4.04 TO NODE     4.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.072
  SOIL CLASSIFICATION IS "A"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =    9.12     SUBAREA RUNOFF(CFS) =    2.43
  EFFECTIVE AREA(ACRES) =   146.82   AREA-AVERAGED Fm(INCH/HR) =   .73
  AREA-AVERAGED Fp(INCH/HR) =   .91  AREA-AVERAGED Ap =   .80
  TOTAL AREA(ACRES) =   146.82       PEAK FLOW RATE(CFS) =   63.21
  TC(MIN) =  82.50

**************************************************************************
  FLOW PROCESS FROM NODE     4.04 TO NODE     4.05 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.072
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =  119.38      SUBAREA RUNOFF(CFS) =   67.07
  EFFECTIVE AREA(ACRES) =   266.20   AREA-AVERAGED Fm(INCH/HR) =   .60
  AREA-AVERAGED Fp(INCH/HR) =   .75  AREA-AVERAGED Ap =   .80
  TOTAL AREA(ACRES) =   266.20       PEAK FLOW RATE(CFS) =  112.44
  TC(MIN) =  82.50

**************************************************************************
  FLOW PROCESS FROM NODE     4.05 TO NODE     4.06 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3740.00
  DOWNSTREAM NODE ELEVATION =   3670.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  3200.00
  CHANNEL SLOPE =   .0219
  CHANNEL FLOW THRU SUBAREA(CFS) =    112.44
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0219 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   3.99 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  13.36   TC(MIN.) =  95.86

**************************************************************************
  FLOW PROCESS FROM NODE     4.05 TO NODE     4.06 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =   .965
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 3-4 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3360
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .60
  SUBAREA AREA(ACRES) =   64.28      SUBAREA RUNOFF(CFS) =   36.41
  EFFECTIVE AREA(ACRES) =   330.48   AREA-AVERAGED Fm(INCH/HR) =   .55
  AREA-AVERAGED Fp(INCH/HR) =   .72  AREA-AVERAGED Ap =   .76
  TOTAL AREA(ACRES) =   330.48       PEAK FLOW RATE(CFS) =  123.23
  TC(MIN) =  95.86

**************************************************************************
  FLOW PROCESS FROM NODE     4.06 TO NODE     4.07 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3670.00
  DOWNSTREAM NODE ELEVATION =   3560.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  4400.00
  CHANNEL SLOPE =   .0250
  CHANNEL FLOW THRU SUBAREA(CFS) =    123.23
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0250 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   4.40 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  16.67   TC(MIN.) = 112.53

**************************************************************************
  FLOW PROCESS FROM NODE     4.06 TO NODE     4.07 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =   .863
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =  202.00      SUBAREA RUNOFF(CFS) =   75.41
  EFFECTIVE AREA(ACRES) =   532.48   AREA-AVERAGED Fm(INCH/HR) =   .51
  AREA-AVERAGED Fp(INCH/HR) =   .66  AREA-AVERAGED Ap =   .78
  TOTAL AREA(ACRES) =   532.48       PEAK FLOW RATE(CFS) =  168.16
  TC(MIN) = 112.53

**************************************************************************
  FLOW PROCESS FROM NODE     4.07 TO NODE     4.08 IS CODE = 5.2
```

```
------------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==============================================================================
  UPSTREAM NODE ELEVATION =   3560.00
  DOWNSTREAM NODE ELEVATION =   3470.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  3900.00
  CHANNEL SLOPE =   .0231
  CHANNEL FLOW THRU SUBAREA(CFS) =    168.16
  FLOW VELOCITY(FEET/SEC) =   8.44 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   7.70   TC(MIN.) = 120.23

******************************************************************************
  FLOW PROCESS FROM NODE     4.07 TO NODE     4.08 IS CODE =   8
------------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =   .824
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =   81.70     SUBAREA RUNOFF(CFS) =   27.63
  EFFECTIVE AREA(ACRES) =   614.18   AREA-AVERAGED Fm(INCH/HR) =   .50
  AREA-AVERAGED Fp(INCH/HR) =   .65  AREA-AVERAGED Ap =   .78
  TOTAL AREA(ACRES) =   614.18       PEAK FLOW RATE(CFS) =  177.08
  TC(MIN) = 120.23

******************************************************************************
  FLOW PROCESS FROM NODE     4.08 TO NODE     4.09 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==============================================================================
  UPSTREAM NODE ELEVATION =   3470.00
  DOWNSTREAM NODE ELEVATION =   3400.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  3500.00
  CHANNEL SLOPE =   .0200
  CHANNEL FLOW THRU SUBAREA(CFS) =    177.08
  FLOW VELOCITY(FEET/SEC) =   7.99 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   7.30   TC(MIN.) = 127.53

******************************************************************************
  FLOW PROCESS FROM NODE     4.08 TO NODE     4.09 IS CODE =   8
------------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =   .790
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =   26.60     SUBAREA RUNOFF(CFS) =    8.20
  EFFECTIVE AREA(ACRES) =   640.78   AREA-AVERAGED Fm(INCH/HR) =   .50
  AREA-AVERAGED Fp(INCH/HR) =   .64  AREA-AVERAGED Ap =   .78
  TOTAL AREA(ACRES) =   640.78       PEAK FLOW RATE(CFS) =  177.08
  TC(MIN) = 127.53

******************************************************************************
  FLOW PROCESS FROM NODE     4.08 TO NODE     4.09 IS CODE =   8
------------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =   .790
  SOIL CLASSIFICATION IS "B"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .6000
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =   31.20     SUBAREA RUNOFF(CFS) =    5.35
  EFFECTIVE AREA(ACRES) =   671.98   AREA-AVERAGED Fm(INCH/HR) =   .51
  AREA-AVERAGED Fp(INCH/HR) =   .65  AREA-AVERAGED Ap =   .78
  TOTAL AREA(ACRES) =   671.98       PEAK FLOW RATE(CFS) =  177.08
  TC(MIN) = 127.53
==============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)      =    671.98  TC(MIN.) =    127.53
  EFFECTIVE AREA(ACRES) =    671.98  AREA-AVERAGED Fm(INCH/HR)=   .51
  AREA-AVERAGED Fp(INCH/HR) =   .65  AREA-AVERAGED Ap =   .78
  PEAK FLOW RATE(CFS)    =    177.08
==============================================================================
==============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                        Analysis prepared by:

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 ************************** DESCRIPTION OF STUDY **************************
*                            DESIGN NODE 1.20                            *
*          TIME OF CONCENTRATION AT NODE 1.18, WATERSHED 1A              *
*                                                                        *
 **************************************************************************

  FILE NAME: R1A-120.INP
  TIME/DATE OF STUDY: 13:13   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                  --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 2 DWELLINGS/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =   3175.00
  DOWNSTREAM ELEVATION(FEET) =   3160.00
  ELEVATION DIFFERENCE(FEET) =     15.00
  TC(MIN.) =  .438*[( 1000.00** 3.00)/(    15.00)]** .20 =   16.079
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.368
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
  SUBAREA RUNOFF(CFS) =     12.05
  TOTAL AREA(ACRES) =     4.50   PEAK FLOW RATE(CFS) =     12.05


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE = 5.2
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3160.00
  DOWNSTREAM NODE ELEVATION =   3130.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2000.00
  CHANNEL SLOPE =   .0150
  CHANNEL FLOW THRU SUBAREA(CFS) =     12.05
  FLOW VELOCITY(FEET/SEC) =   3.21 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  10.38   TC(MIN.) =  26.46


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.377
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
  SUBAREA AREA(ACRES) =   36.70     SUBAREA RUNOFF(CFS) =   65.56
  EFFECTIVE AREA(ACRES) =   41.20   AREA-AVERAGED Fm(INCH/HR) =   .39
  AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .70
  TOTAL AREA(ACRES) =   41.20       PEAK FLOW RATE(CFS) =   73.60
  TC(MIN) =  26.46


**************************************************************************
  FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE = 5.2
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3130.00
  DOWNSTREAM NODE ELEVATION =   3090.00
```

```
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3100.00
 CHANNEL SLOPE =   .0129
 CHANNEL FLOW THRU SUBAREA(CFS) =     73.60
 FLOW VELOCITY(FEET/SEC) =   4.92 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  10.50   TC(MIN.) =  36.96

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.881
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =  150.50     SUBAREA RUNOFF(CFS) =  201.70
 EFFECTIVE AREA(ACRES) =   191.70   AREA-AVERAGED Fm(INCH/HR) =   .39
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .70
 TOTAL AREA(ACRES) =   191.70       PEAK FLOW RATE(CFS) =  256.91
 TC(MIN) =  36.96

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.881
 SOIL CLASSIFICATION IS "C"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =    7.50     SUBAREA RUNOFF(CFS) =    9.48
 EFFECTIVE AREA(ACRES) =   199.20   AREA-AVERAGED Fm(INCH/HR) =   .40
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .71
 TOTAL AREA(ACRES) =   199.20       PEAK FLOW RATE(CFS) =  266.40
 TC(MIN) =  36.96

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3090.00
 DOWNSTREAM NODE ELEVATION =   3040.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3800.00
 CHANNEL SLOPE =   .0132
 CHANNEL FLOW THRU SUBAREA(CFS) =    266.40
 FLOW VELOCITY(FEET/SEC) =   7.36 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   8.61   TC(MIN.) =  45.57

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.625
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =  290.10     SUBAREA RUNOFF(CFS) =  321.82
 EFFECTIVE AREA(ACRES) =   489.30   AREA-AVERAGED Fm(INCH/HR) =   .39
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .70
 TOTAL AREA(ACRES) =   489.30       PEAK FLOW RATE(CFS) =  542.24
 TC(MIN) =  45.57

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.625
 SOIL CLASSIFICATION IS "C"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =   18.00     SUBAREA RUNOFF(CFS) =   18.61
 EFFECTIVE AREA(ACRES) =   507.30   AREA-AVERAGED Fm(INCH/HR) =   .40
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .71
 TOTAL AREA(ACRES) =   507.30       PEAK FLOW RATE(CFS) =  560.84
 TC(MIN) =  45.57

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.18 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3040.00
 DOWNSTREAM NODE ELEVATION =   2980.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  5400.00
 CHANNEL SLOPE =   .0111
```

```
 CHANNEL FLOW THRU SUBAREA(CFS) =    560.84
 FLOW VELOCITY(FEET/SEC) =   8.56 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  10.51   TC(MIN.) =  56.08

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.405
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .5250
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =  154.20     SUBAREA RUNOFF(CFS) =  122.12
 EFFECTIVE AREA(ACRES) =  661.50   AREA-AVERAGED Fm(INCH/HR) =   .43
 AREA-AVERAGED Fp(INCH/HR) =   .60  AREA-AVERAGED Ap =   .71
 TOTAL AREA(ACRES) =  661.50       PEAK FLOW RATE(CFS) =  582.68
 TC(MIN) =  56.08

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.405
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =   10.00     SUBAREA RUNOFF(CFS) =    9.12
 EFFECTIVE AREA(ACRES) =  671.50   AREA-AVERAGED Fm(INCH/HR) =   .43
 AREA-AVERAGED Fp(INCH/HR) =   .60  AREA-AVERAGED Ap =   .71
 TOTAL AREA(ACRES) =  671.50       PEAK FLOW RATE(CFS) =  591.79
 TC(MIN) =  56.08

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.405
 SOIL CLASSIFICATION IS "B"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .6375
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =   10.00     SUBAREA RUNOFF(CFS) =    6.91
 EFFECTIVE AREA(ACRES) =  681.50   AREA-AVERAGED Fm(INCH/HR) =   .43
 AREA-AVERAGED Fp(INCH/HR) =   .61  AREA-AVERAGED Ap =   .71
 TOTAL AREA(ACRES) =  681.50       PEAK FLOW RATE(CFS) =  598.70
 TC(MIN) =  56.08

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.405
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 5-7 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .50
 SUBAREA AREA(ACRES) =  114.00     SUBAREA RUNOFF(CFS) =  105.67
 EFFECTIVE AREA(ACRES) =  795.50   AREA-AVERAGED Fm(INCH/HR) =   .42
 AREA-AVERAGED Fp(INCH/HR) =   .62  AREA-AVERAGED Ap =   .68
 TOTAL AREA(ACRES) =  795.50       PEAK FLOW RATE(CFS) =  704.37
 TC(MIN) =  56.08

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.405
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 5-7 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .2800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .50
 SUBAREA AREA(ACRES) =   64.00     SUBAREA RUNOFF(CFS) =   64.80
 EFFECTIVE AREA(ACRES) =  859.50   AREA-AVERAGED Fm(INCH/HR) =   .41
 AREA-AVERAGED Fp(INCH/HR) =   .62  AREA-AVERAGED Ap =   .66
 TOTAL AREA(ACRES) =  859.50       PEAK FLOW RATE(CFS) =  769.17
 TC(MIN) =  56.08

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.405
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
```

```
 SUBAREA AREA(ACRES) =   73.00      SUBAREA RUNOFF(CFS) =   88.63
 EFFECTIVE AREA(ACRES) =   932.50   AREA-AVERAGED Fm(INCH/HR) =   .38
 AREA-AVERAGED Fp(INCH/HR) =   .62  AREA-AVERAGED Ap =   .62
 TOTAL AREA(ACRES) =   932.50       PEAK FLOW RATE(CFS) =  857.80
 TC(MIN) =  56.08
================================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    932.50  TC(MIN.) =     56.08
 EFFECTIVE AREA(ACRES) =    932.50  AREA-AVERAGED Fm(INCH/HR)=   .38
 AREA-AVERAGED Fp(INCH/HR) =   .62  AREA-AVERAGED Ap =   .62
 PEAK FLOW RATE(CFS)    =    857.80
================================================================================
================================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                           DESIGN NODE 1.20                             *
*          TIME OF CONCENTRATION AT NODE 1.18, WATERSHED 1B              *
*                                                                        *
 ************************************************************************

  FILE NAME: R1B-120.INP
  TIME/DATE OF STUDY: 13:49   6/28/1992
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                  --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 1 DWELLING/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =   3130.00
  DOWNSTREAM ELEVATION(FEET) =   3095.00
  ELEVATION DIFFERENCE(FEET) =     35.00
  TC(MIN.) =  .469*[( 1000.00** 3.00)/(    35.00)]** .20 =   14.533
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.615
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA RUNOFF(CFS) =      8.84
  TOTAL AREA(ACRES) =      3.10   PEAK FLOW RATE(CFS) =      8.84


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE = 5.2
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
========================================================================
  UPSTREAM NODE ELEVATION =   3095.00
  DOWNSTREAM NODE ELEVATION =   3075.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2200.00
  CHANNEL SLOPE =   .0091
  CHANNEL FLOW THRU SUBAREA(CFS) =      8.84
  FLOW VELOCITY(FEET/SEC) =   2.31 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  15.87   TC(MIN.) =  30.41


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.156
  SOIL CLASSIFICATION IS "C"
  PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
  SUBAREA AREA(ACRES) =     2.00     SUBAREA RUNOFF(CFS) =     3.02
  EFFECTIVE AREA(ACRES) =     5.10   AREA-AVERAGED Fm(INCH/HR) =   .46
  AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .82
  TOTAL AREA(ACRES) =     5.10       PEAK FLOW RATE(CFS) =     8.84
  TC(MIN) =  30.41


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.156
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
```

```
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =    3.10     SUBAREA RUNOFF(CFS) =    4.92
 EFFECTIVE AREA(ACRES) =    8.20   AREA-AVERAGED Fm(INCH/HR) =   .43
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .77
 TOTAL AREA(ACRES) =    8.20       PEAK FLOW RATE(CFS) =   12.71
 TC(MIN) =  30.41

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3075.00
 DOWNSTREAM NODE ELEVATION =   3040.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2900.00
 CHANNEL SLOPE =   .0121
 CHANNEL FLOW THRU SUBAREA(CFS) =    12.71
 FLOW VELOCITY(FEET/SEC) =   2.92 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  16.55   TC(MIN.) =  46.96

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.591
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =    3.10     SUBAREA RUNOFF(CFS) =    4.23
 EFFECTIVE AREA(ACRES) =   11.30   AREA-AVERAGED Fm(INCH/HR) =   .34
 AREA-AVERAGED Fp(INCH/HR) =   .57  AREA-AVERAGED Ap =   .59
 TOTAL AREA(ACRES) =   11.30       PEAK FLOW RATE(CFS) =   12.77
 TC(MIN) =  46.96

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.591
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =    3.10     SUBAREA RUNOFF(CFS) =    4.28
 EFFECTIVE AREA(ACRES) =   14.40   AREA-AVERAGED Fm(INCH/HR) =   .28
 AREA-AVERAGED Fp(INCH/HR) =   .57  AREA-AVERAGED Ap =   .48
 TOTAL AREA(ACRES) =   14.40       PEAK FLOW RATE(CFS) =   17.05
 TC(MIN) =  46.96

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.591
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =   73.00     SUBAREA RUNOFF(CFS) =   78.76
 EFFECTIVE AREA(ACRES) =   87.40   AREA-AVERAGED Fm(INCH/HR) =   .37
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .66
 TOTAL AREA(ACRES) =   87.40       PEAK FLOW RATE(CFS) =   95.81
 TC(MIN) =  46.96

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.591
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .5250
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =    2.90     SUBAREA RUNOFF(CFS) =    2.78
 EFFECTIVE AREA(ACRES) =   90.30   AREA-AVERAGED Fm(INCH/HR) =   .38
 AREA-AVERAGED Fp(INCH/HR) =   .57  AREA-AVERAGED Ap =   .67
 TOTAL AREA(ACRES) =   90.30       PEAK FLOW RATE(CFS) =   98.59
 TC(MIN) =  46.96

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.18 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3040.00
 DOWNSTREAM NODE ELEVATION =   2980.00
```

```
 CHANNEL LENGTH THRU SUBAREA(FEET) =  6000.00
 CHANNEL SLOPE =   .0100
 CHANNEL FLOW THRU SUBAREA(CFS) =     98.59
 FLOW VELOCITY(FEET/SEC) =   4.73 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  21.16   TC(MIN.) =  68.12

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.226
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   72.20     SUBAREA RUNOFF(CFS) =   74.80
 EFFECTIVE AREA(ACRES) =   162.50   AREA-AVERAGED Fm(INCH/HR) =   .24
 AREA-AVERAGED Fp(INCH/HR) =   .59  AREA-AVERAGED Ap =   .41
 TOTAL AREA(ACRES) =   162.50       PEAK FLOW RATE(CFS) =  143.76
 TC(MIN) =  68.12

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.226
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 5-7 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .50
 SUBAREA AREA(ACRES) =   32.00     SUBAREA RUNOFF(CFS) =   24.51
 EFFECTIVE AREA(ACRES) =   194.50   AREA-AVERAGED Fm(INCH/HR) =   .26
 AREA-AVERAGED Fp(INCH/HR) =   .62  AREA-AVERAGED Ap =   .43
 TOTAL AREA(ACRES) =   194.50       PEAK FLOW RATE(CFS) =  168.27
 TC(MIN) =  68.12

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.226
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .5250
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =   18.40     SUBAREA RUNOFF(CFS) =   11.61
 EFFECTIVE AREA(ACRES) =   212.90   AREA-AVERAGED Fm(INCH/HR) =   .29
 AREA-AVERAGED Fp(INCH/HR) =   .64  AREA-AVERAGED Ap =   .45
 TOTAL AREA(ACRES) =   212.90       PEAK FLOW RATE(CFS) =  179.88
 TC(MIN) =  68.12

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.226
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 5-7 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .2800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .50
 SUBAREA AREA(ACRES) =   11.90     SUBAREA RUNOFF(CFS) =   10.13
 EFFECTIVE AREA(ACRES) =   224.80   AREA-AVERAGED Fm(INCH/HR) =   .29
 AREA-AVERAGED Fp(INCH/HR) =   .63  AREA-AVERAGED Ap =   .45
 TOTAL AREA(ACRES) =   224.80       PEAK FLOW RATE(CFS) =  190.01
 TC(MIN) =  68.12

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.18 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.226
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =    1.90     SUBAREA RUNOFF(CFS) =    1.43
 EFFECTIVE AREA(ACRES) =   226.70   AREA-AVERAGED Fm(INCH/HR) =   .29
 AREA-AVERAGED Fp(INCH/HR) =   .63  AREA-AVERAGED Ap =   .46
 TOTAL AREA(ACRES) =   226.70       PEAK FLOW RATE(CFS) =  191.44
 TC(MIN) =  68.12
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    226.70  TC(MIN.) =     68.12
 EFFECTIVE AREA(ACRES) =    226.70  AREA-AVERAGED Fm(INCH/HR)=   .29
 AREA-AVERAGED Fp(INCH/HR) =   .63  AREA-AVERAGED Ap =   .46
 PEAK FLOW RATE(CFS)    =    191.44
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*             TIME OF CONCENTRATION AT NODE 1.19, WATERSHED 1C           *
*                                                                        *
 **************************************************************************

  FILE NAME: R1C-120.INP
  TIME/DATE OF STUDY: 13:51   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 2 DWELLINGS/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =   3090.00
  DOWNSTREAM ELEVATION(FEET) =   3070.00
  ELEVATION DIFFERENCE(FEET) =     20.00
  TC(MIN.) =  .438*[( 1000.00** 3.00)/(    20.00)]** .20 =   15.180
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.507
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
  SUBAREA RUNOFF(CFS) =     11.21
  TOTAL AREA(ACRES) =      4.00   PEAK FLOW RATE(CFS) =     11.21


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE = 5.2
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3070.00
  DOWNSTREAM NODE ELEVATION =   3030.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  3000.00
  CHANNEL SLOPE =   .0133
  CHANNEL FLOW THRU SUBAREA(CFS) =     11.21
  FLOW VELOCITY(FEET/SEC) =   2.97 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  16.83   TC(MIN.) =  32.01


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.080
  SOIL CLASSIFICATION IS "B"
  RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .5250
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
  SUBAREA AREA(ACRES) =   40.50     SUBAREA RUNOFF(CFS) =   56.69
  EFFECTIVE AREA(ACRES) =   44.50   AREA-AVERAGED Fm(INCH/HR) =   .51
  AREA-AVERAGED Fp(INCH/HR) =   .73  AREA-AVERAGED Ap =   .70
  TOTAL AREA(ACRES) =    44.50      PEAK FLOW RATE(CFS) =   62.77
  TC(MIN) =  32.01


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.080
  SOIL CLASSIFICATION IS "B"
  COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
```

```
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =    1.20     SUBAREA RUNOFF(CFS) =    2.17
 EFFECTIVE AREA(ACRES) =   45.70   AREA-AVERAGED Fm(INCH/HR) =   .50
 AREA-AVERAGED Fp(INCH/HR) =   .73  AREA-AVERAGED Ap =   .68
 TOTAL AREA(ACRES) =   45.70       PEAK FLOW RATE(CFS) =   64.94
 TC(MIN) =  32.01

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3030.00
 DOWNSTREAM NODE ELEVATION =   2990.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3100.00
 CHANNEL SLOPE =   .0129
 CHANNEL FLOW THRU SUBAREA(CFS) =     64.94
 FLOW VELOCITY(FEET/SEC) =   4.74 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  10.89   TC(MIN.) =  42.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.695
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .5250
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =   14.50     SUBAREA RUNOFF(CFS) =   15.26
 EFFECTIVE AREA(ACRES) =   60.20   AREA-AVERAGED Fm(INCH/HR) =   .51
 AREA-AVERAGED Fp(INCH/HR) =   .74  AREA-AVERAGED Ap =   .69
 TOTAL AREA(ACRES) =   60.20       PEAK FLOW RATE(CFS) =   64.94
 TC(MIN) =  42.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.695
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 5-7 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .50
 SUBAREA AREA(ACRES) =   39.50     SUBAREA RUNOFF(CFS) =   46.92
 EFFECTIVE AREA(ACRES) =   99.70   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .74  AREA-AVERAGED Ap =   .61
 TOTAL AREA(ACRES) =   99.70       PEAK FLOW RATE(CFS) =  111.26
 TC(MIN) =  42.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.695
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   34.90     SUBAREA RUNOFF(CFS) =   50.88
 EFFECTIVE AREA(ACRES) =  134.60   AREA-AVERAGED Fm(INCH/HR) =   .36
 AREA-AVERAGED Fp(INCH/HR) =   .74  AREA-AVERAGED Ap =   .48
 TOTAL AREA(ACRES) =  134.60       PEAK FLOW RATE(CFS) =  162.13
 TC(MIN) =  42.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.19 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   2990.00
 DOWNSTREAM NODE ELEVATION =   2910.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  8800.00
 CHANNEL SLOPE =   .0091
 CHANNEL FLOW THRU SUBAREA(CFS) =    162.13
 FLOW VELOCITY(FEET/SEC) =   5.24 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  27.98   TC(MIN.) =  70.88

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.19 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.192
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
```

```
 SUBAREA AREA(ACRES) =  339.00      SUBAREA RUNOFF(CFS) =  340.93
 EFFECTIVE AREA(ACRES) =   473.60   AREA-AVERAGED Fm(INCH/HR) =   .15
 AREA-AVERAGED Fp(INCH/HR) =   .74  AREA-AVERAGED Ap =    .21
 TOTAL AREA(ACRES) =   473.60       PEAK FLOW RATE(CFS) =  442.21
 TC(MIN) =  70.88

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.19 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.192
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =  156.00      SUBAREA RUNOFF(CFS) =  159.55
 EFFECTIVE AREA(ACRES) =   629.60   AREA-AVERAGED Fm(INCH/HR) =   .13
 AREA-AVERAGED Fp(INCH/HR) =   .72  AREA-AVERAGED Ap =    .18
 TOTAL AREA(ACRES) =   629.60       PEAK FLOW RATE(CFS) =  601.77
 TC(MIN) =  70.88
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    629.60  TC(MIN.) =     70.88
 EFFECTIVE AREA(ACRES) =    629.60  AREA-AVERAGED Fm(INCH/HR)=   .13
 AREA-AVERAGED Fp(INCH/HR) =   .72  AREA-AVERAGED Ap =    .18
 PEAK FLOW RATE(CFS)    =    601.77
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*              TIME OF CONCENTRATION AT NODE 1.19, WATERSHED 1D          *
*                                                                        *
 ************************************************************************

  FILE NAME: R1D-120.INP
  TIME/DATE OF STUDY: 13:52   6/28/1992
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                  --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     1.00 TO NODE     1.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
  DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   600.00
  UPSTREAM ELEVATION(FEET) =   3215.00
  DOWNSTREAM ELEVATION(FEET) =   3195.00
  ELEVATION DIFFERENCE(FEET) =    20.00
  TC(MIN.) =  .304*[(  600.00** 3.00)/(    20.00)]** .20 =    7.755
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.612
  SOIL CLASSIFICATION IS "C"
  COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
  SUBAREA RUNOFF(CFS) =     26.00
  TOTAL AREA(ACRES) =      5.20   PEAK FLOW RATE(CFS) =     26.00


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE = 5.2
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
========================================================================
  UPSTREAM NODE ELEVATION =   3195.00
  DOWNSTREAM NODE ELEVATION =   3160.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2200.00
  CHANNEL SLOPE =   .0159
  CHANNEL FLOW THRU SUBAREA(CFS) =     26.00
  FLOW VELOCITY(FEET/SEC) =   4.06 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   9.03   TC(MIN.) =  16.79


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.268
  SOIL CLASSIFICATION IS "C"
  COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
  SUBAREA AREA(ACRES) =   33.90     SUBAREA RUNOFF(CFS) =   98.01
  EFFECTIVE AREA(ACRES) =   39.10   AREA-AVERAGED Fm(INCH/HR) =   .06
  AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .10
  TOTAL AREA(ACRES) =    39.10      PEAK FLOW RATE(CFS) =  113.05
  TC(MIN) =  16.79


**************************************************************************
  FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.268
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 5-7 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .2800
```

```
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .50
 SUBAREA AREA(ACRES) =   11.00     SUBAREA RUNOFF(CFS) =   29.59
 EFFECTIVE AREA(ACRES) =   50.10   AREA-AVERAGED Fm(INCH/HR) =   .11
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .19
 TOTAL AREA(ACRES) =   50.10       PEAK FLOW RATE(CFS) =  142.63
 TC(MIN) =  16.79

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3160.00
 DOWNSTREAM NODE ELEVATION =   3100.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4300.00
 CHANNEL SLOPE =   .0140
 CHANNEL FLOW THRU SUBAREA(CFS) =   142.63
 FLOW VELOCITY(FEET/SEC) =   6.24 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  11.48   TC(MIN.) =  28.27

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.270
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =    2.00     SUBAREA RUNOFF(CFS) =    3.98
 EFFECTIVE AREA(ACRES) =   52.10   AREA-AVERAGED Fm(INCH/HR) =   .10
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .18
 TOTAL AREA(ACRES) =   52.10       PEAK FLOW RATE(CFS) =  142.63
 TC(MIN) =  28.27

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.270
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 5-7 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .2800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .50
 SUBAREA AREA(ACRES) =   56.00     SUBAREA RUNOFF(CFS) =  100.27
 EFFECTIVE AREA(ACRES) =  108.10   AREA-AVERAGED Fm(INCH/HR) =   .19
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .35
 TOTAL AREA(ACRES) =  108.10       PEAK FLOW RATE(CFS) =  201.85
 TC(MIN) =  28.27

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.270
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =   74.00     SUBAREA RUNOFF(CFS) =  125.04
 EFFECTIVE AREA(ACRES) =  182.10   AREA-AVERAGED Fm(INCH/HR) =   .27
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .49
 TOTAL AREA(ACRES) =  182.10       PEAK FLOW RATE(CFS) =  326.89
 TC(MIN) =  28.27

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.270
 SOIL CLASSIFICATION IS "C"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =    6.00     SUBAREA RUNOFF(CFS) =    9.69
 EFFECTIVE AREA(ACRES) =  188.10   AREA-AVERAGED Fm(INCH/HR) =   .28
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .50
 TOTAL AREA(ACRES) =  188.10       PEAK FLOW RATE(CFS) =  336.57
 TC(MIN) =  28.27

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3100.00
 DOWNSTREAM NODE ELEVATION =   3050.00
```

```
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4000.00
 CHANNEL SLOPE =   .0125
 CHANNEL FLOW THRU SUBAREA(CFS) =    336.57
 FLOW VELOCITY(FEET/SEC) =   7.72 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   8.64   TC(MIN.) =  36.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.883
 SOIL CLASSIFICATION IS "C"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =   15.00      SUBAREA RUNOFF(CFS) =   19.00
 EFFECTIVE AREA(ACRES) =   203.10   AREA-AVERAGED Fm(INCH/HR) =   .30
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .53
 TOTAL AREA(ACRES) =   203.10       PEAK FLOW RATE(CFS) =  336.57
 TC(MIN) =  36.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.883
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .5250
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =   27.50      SUBAREA RUNOFF(CFS) =   33.61
 EFFECTIVE AREA(ACRES) =   230.60   AREA-AVERAGED Fm(INCH/HR) =   .32
 AREA-AVERAGED Fp(INCH/HR) =   .59  AREA-AVERAGED Ap =   .55
 TOTAL AREA(ACRES) =   230.60       PEAK FLOW RATE(CFS) =  336.57
 TC(MIN) =  36.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.883
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =  130.00      SUBAREA RUNOFF(CFS) =  174.46
 EFFECTIVE AREA(ACRES) =   360.60   AREA-AVERAGED Fm(INCH/HR) =   .35
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .60
 TOTAL AREA(ACRES) =   360.60       PEAK FLOW RATE(CFS) =  498.22
 TC(MIN) =  36.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.883
 SOIL CLASSIFICATION IS "B"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .6375
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =    3.20      SUBAREA RUNOFF(CFS) =    3.59
 EFFECTIVE AREA(ACRES) =   363.80   AREA-AVERAGED Fm(INCH/HR) =   .35
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .61
 TOTAL AREA(ACRES) =   363.80       PEAK FLOW RATE(CFS) =  501.80
 TC(MIN) =  36.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.883
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 5-7 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .2800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .50
 SUBAREA AREA(ACRES) =    2.50      SUBAREA RUNOFF(CFS) =    3.61
 EFFECTIVE AREA(ACRES) =   366.30   AREA-AVERAGED Fm(INCH/HR) =   .35
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .60
 TOTAL AREA(ACRES) =   366.30       PEAK FLOW RATE(CFS) =  505.41
 TC(MIN) =  36.90

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3050.00
 DOWNSTREAM NODE ELEVATION =   2990.00
```

```
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4400.00
 CHANNEL SLOPE =   .0136
 CHANNEL FLOW THRU SUBAREA(CFS) =    505.41
 FLOW VELOCITY(FEET/SEC) =   9.18 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   7.99   TC(MIN.) =  44.89

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.642
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =   42.00     SUBAREA RUNOFF(CFS) =   47.24
 EFFECTIVE AREA(ACRES) =   408.30   AREA-AVERAGED Fm(INCH/HR) =   .35
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .61
 TOTAL AREA(ACRES) =   408.30      PEAK FLOW RATE(CFS) =  505.41
 TC(MIN) =  44.89

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.642
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .5250
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =  137.00     SUBAREA RUNOFF(CFS) =  137.68
 EFFECTIVE AREA(ACRES) =   545.30   AREA-AVERAGED Fm(INCH/HR) =   .40
 AREA-AVERAGED Fp(INCH/HR) =   .62  AREA-AVERAGED Ap =   .64
 TOTAL AREA(ACRES) =   545.30      PEAK FLOW RATE(CFS) =  610.73
 TC(MIN) =  44.89

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.642
 SOIL CLASSIFICATION IS "B"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .6375
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =   34.00     SUBAREA RUNOFF(CFS) =   30.73
 EFFECTIVE AREA(ACRES) =   579.30   AREA-AVERAGED Fm(INCH/HR) =   .41
 AREA-AVERAGED Fp(INCH/HR) =   .63  AREA-AVERAGED Ap =   .65
 TOTAL AREA(ACRES) =   579.30      PEAK FLOW RATE(CFS) =  641.45
 TC(MIN) =  44.89

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.642
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   62.00     SUBAREA RUNOFF(CFS) =   87.42
 EFFECTIVE AREA(ACRES) =   641.30   AREA-AVERAGED Fm(INCH/HR) =   .38
 AREA-AVERAGED Fp(INCH/HR) =   .64  AREA-AVERAGED Ap =   .60
 TOTAL AREA(ACRES) =   641.30      PEAK FLOW RATE(CFS) =  728.87
 TC(MIN) =  44.89

****************************************************************************
 FLOW PROCESS FROM NODE     1.05 TO NODE     1.19 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   2990.00
 DOWNSTREAM NODE ELEVATION =   2910.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  7900.00
 CHANNEL SLOPE =   .0101
 CHANNEL FLOW THRU SUBAREA(CFS) =    728.87
 FLOW VELOCITY(FEET/SEC) =   8.90 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  14.80   TC(MIN.) =  59.69

****************************************************************************
 FLOW PROCESS FROM NODE     1.05 TO NODE     1.19 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.345
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
```

```
 SUBAREA AREA(ACRES) =  186.70      SUBAREA RUNOFF(CFS) =  213.37
 EFFECTIVE AREA(ACRES) =   828.00   AREA-AVERAGED Fm(INCH/HR) =   .31
 AREA-AVERAGED Fp(INCH/HR) =   .64  AREA-AVERAGED Ap =   .48
 TOTAL AREA(ACRES) =   828.00       PEAK FLOW RATE(CFS) =  770.94
 TC(MIN) =  59.69

****************************************************************************
 FLOW PROCESS FROM NODE     1.05 TO NODE     1.19 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.345
 SOIL CLASSIFICATION IS "B"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .6375
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =   52.00      SUBAREA RUNOFF(CFS) =   33.10
 EFFECTIVE AREA(ACRES) =   880.00   AREA-AVERAGED Fm(INCH/HR) =   .33
 AREA-AVERAGED Fp(INCH/HR) =   .65  AREA-AVERAGED Ap =   .51
 TOTAL AREA(ACRES) =   880.00       PEAK FLOW RATE(CFS) =  804.04
 TC(MIN) =  59.69
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    880.00  TC(MIN.) =     59.69
 EFFECTIVE AREA(ACRES) =    880.00  AREA-AVERAGED Fm(INCH/HR)=   .33
 AREA-AVERAGED Fp(INCH/HR) =   .65  AREA-AVERAGED Ap =   .51
 PEAK FLOW RATE(CFS)    =    804.04
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                        Analysis prepared by:

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 ************************** DESCRIPTION OF STUDY **************************
*                            DESIGN NODE 1.20                            *
*              TIME OF CONCENTRATION AT NODE 1.20, WATERSHED 1E          *
*                                                                        *
 **************************************************************************

  FILE NAME: R1E-120.INP
  TIME/DATE OF STUDY: 13:55   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE      1.00 TO NODE      1.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 1 DWELLING/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =   3080.00
  DOWNSTREAM ELEVATION(FEET) =   3065.00
  ELEVATION DIFFERENCE(FEET) =     15.00
  TC(MIN.) =  .469*[( 1000.00** 3.00)/(    15.00)]** .20 =   17.217
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.211
  SOIL CLASSIFICATION IS "B"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .6000
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA RUNOFF(CFS) =      7.28
  TOTAL AREA(ACRES) =      3.10   PEAK FLOW RATE(CFS) =      7.28


**************************************************************************
  FLOW PROCESS FROM NODE      1.01 TO NODE      1.02 IS CODE = 5.2
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3065.00
  DOWNSTREAM NODE ELEVATION =   3030.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2300.00
  CHANNEL SLOPE =   .0152
  CHANNEL FLOW THRU SUBAREA(CFS) =      7.28
  FLOW VELOCITY(FEET/SEC) =   2.85 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  13.46   TC(MIN.) =  30.67


**************************************************************************
  FLOW PROCESS FROM NODE      1.01 TO NODE      1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.143
  SOIL CLASSIFICATION IS "B"
  RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .5250
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
  SUBAREA AREA(ACRES) =   18.40     SUBAREA RUNOFF(CFS) =   26.80
  EFFECTIVE AREA(ACRES) =   21.50   AREA-AVERAGED Fm(INCH/HR) =   .54
  AREA-AVERAGED Fp(INCH/HR) =   .75  AREA-AVERAGED Ap =   .71
  TOTAL AREA(ACRES) =   21.50       PEAK FLOW RATE(CFS) =   31.10
  TC(MIN) =  30.67


**************************************************************************
  FLOW PROCESS FROM NODE      1.01 TO NODE      1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.143
  SOIL CLASSIFICATION IS "B"
  COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
```

```
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   14.80     SUBAREA RUNOFF(CFS) =   27.55
 EFFECTIVE AREA(ACRES) =   36.30   AREA-AVERAGED Fm(INCH/HR) =  .35
 AREA-AVERAGED Fp(INCH/HR) =   .75  AREA-AVERAGED Ap =   .46
 TOTAL AREA(ACRES) =   36.30       PEAK FLOW RATE(CFS) =   58.65
 TC(MIN) =  30.67

****************************************************************************
 FLOW PROCESS FROM NODE     1.01 TO NODE     1.02 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.143
 SOIL CLASSIFICATION IS "B"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .6375
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =    3.50     SUBAREA RUNOFF(CFS) =    4.74
 EFFECTIVE AREA(ACRES) =   39.80   AREA-AVERAGED Fm(INCH/HR) =   .37
 AREA-AVERAGED Fp(INCH/HR) =   .75  AREA-AVERAGED Ap =   .50
 TOTAL AREA(ACRES) =   39.80       PEAK FLOW RATE(CFS) =   63.40
 TC(MIN) =  30.67

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3030.00
 DOWNSTREAM NODE ELEVATION =   2980.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3700.00
 CHANNEL SLOPE =   .0135
 CHANNEL FLOW THRU SUBAREA(CFS) =    63.40
 FLOW VELOCITY(FEET/SEC) =   4.82 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  12.79   TC(MIN.) =  43.47

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.679
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   55.00     SUBAREA RUNOFF(CFS) =   79.41
 EFFECTIVE AREA(ACRES) =   94.80   AREA-AVERAGED Fm(INCH/HR) =   .20
 AREA-AVERAGED Fp(INCH/HR) =   .75  AREA-AVERAGED Ap =   .27
 TOTAL AREA(ACRES) =   94.80       PEAK FLOW RATE(CFS) =  126.19
 TC(MIN) =  43.47

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.679
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =  102.90     SUBAREA RUNOFF(CFS) =  150.33
 EFFECTIVE AREA(ACRES) =  197.70   AREA-AVERAGED Fm(INCH/HR) =   .13
 AREA-AVERAGED Fp(INCH/HR) =   .70  AREA-AVERAGED Ap =   .18
 TOTAL AREA(ACRES) =  197.70       PEAK FLOW RATE(CFS) =  276.51
 TC(MIN) =  43.47

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.20 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   2980.00
 DOWNSTREAM NODE ELEVATION =   2890.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  8900.00
 CHANNEL SLOPE =   .0101
 CHANNEL FLOW THRU SUBAREA(CFS) =   276.51
 FLOW VELOCITY(FEET/SEC) =   6.52 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  22.73   TC(MIN.) =  66.20

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.20 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.251
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
```

```
 SUBAREA AREA(ACRES) =  358.00      SUBAREA RUNOFF(CFS) =  378.87
 EFFECTIVE AREA(ACRES) =   555.70   AREA-AVERAGED Fm(INCH/HR) =   .09
 AREA-AVERAGED Fp(INCH/HR) =   .72  AREA-AVERAGED Ap =    .13
 TOTAL AREA(ACRES) =   555.70       PEAK FLOW RATE(CFS) =  579.17
 TC(MIN) =  66.20

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.20 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.251
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =  183.80      SUBAREA RUNOFF(CFS) =  197.66
 EFFECTIVE AREA(ACRES) =   739.50   AREA-AVERAGED Fm(INCH/HR) =   .08
 AREA-AVERAGED Fp(INCH/HR) =   .69  AREA-AVERAGED Ap =   .12
 TOTAL AREA(ACRES) =   739.50       PEAK FLOW RATE(CFS) =  776.83
 TC(MIN) =  66.20
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    739.50  TC(MIN.) =     66.20
 EFFECTIVE AREA(ACRES) =    739.50  AREA-AVERAGED Fm(INCH/HR)=   .08
 AREA-AVERAGED Fp(INCH/HR) =   .69  AREA-AVERAGED Ap =   .12
 PEAK FLOW RATE(CFS)    =    776.83
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                            DESIGN NODE 1.20                            *
*              TIME OF CONCENTRATION AT NODE 1.20, WATERSHED 1F          *
*                                                                        *
 **************************************************************************

  FILE NAME: R1F-120.INP
  TIME/DATE OF STUDY: 13:57   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE      1.00 TO NODE      1.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 2 DWELLINGS/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   700.00
  UPSTREAM ELEVATION(FEET) =   3275.00
  DOWNSTREAM ELEVATION(FEET) =   3265.00
  ELEVATION DIFFERENCE(FEET) =     10.00
  TC(MIN.) =  .438*[(  700.00** 3.00)/(    10.00)]** .20 =   14.078
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.697
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
  SUBAREA RUNOFF(CFS) =     15.47
  TOTAL AREA(ACRES) =      5.20   PEAK FLOW RATE(CFS) =     15.47


**************************************************************************
  FLOW PROCESS FROM NODE      1.01 TO NODE      1.02 IS CODE = 5.2
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3265.00
  DOWNSTREAM NODE ELEVATION =   3230.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2000.00
  CHANNEL SLOPE =   .0175
  CHANNEL FLOW THRU SUBAREA(CFS) =     15.47
  FLOW VELOCITY(FEET/SEC) =   3.70 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   9.01   TC(MIN.) =  23.08


**************************************************************************
  FLOW PROCESS FROM NODE      1.01 TO NODE      1.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.615
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
  SUBAREA AREA(ACRES) =   56.90      SUBAREA RUNOFF(CFS) =  113.85
  EFFECTIVE AREA(ACRES) =    62.10   AREA-AVERAGED Fm(INCH/HR) =   .39
  AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .70
  TOTAL AREA(ACRES) =    62.10       PEAK FLOW RATE(CFS) =  124.25
  TC(MIN) =  23.08


**************************************************************************
  FLOW PROCESS FROM NODE      1.02 TO NODE      1.03 IS CODE = 5.2
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3230.00
  DOWNSTREAM NODE ELEVATION =   3180.00
```

```
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3400.00
 CHANNEL SLOPE =   .0147
 CHANNEL FLOW THRU SUBAREA(CFS) =    124.25
 FLOW VELOCITY(FEET/SEC) =   6.15 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   9.22   TC(MIN.) =  32.30

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.067
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =   60.00     SUBAREA RUNOFF(CFS) =   90.45
 EFFECTIVE AREA(ACRES) =   122.10   AREA-AVERAGED Fm(INCH/HR) =   .39
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .70
 TOTAL AREA(ACRES) =   122.10      PEAK FLOW RATE(CFS) =  184.06
 TC(MIN) =  32.30

****************************************************************************
 FLOW PROCESS FROM NODE     1.02 TO NODE     1.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.067
 SOIL CLASSIFICATION IS "C"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =    3.00     SUBAREA RUNOFF(CFS) =    4.30
 EFFECTIVE AREA(ACRES) =   125.10   AREA-AVERAGED Fm(INCH/HR) =   .39
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .70
 TOTAL AREA(ACRES) =   125.10      PEAK FLOW RATE(CFS) =  188.35
 TC(MIN) =  32.30

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =  3180.00
 DOWNSTREAM NODE ELEVATION =  3130.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3600.00
 CHANNEL SLOPE =   .0139
 CHANNEL FLOW THRU SUBAREA(CFS) =    188.35
 FLOW VELOCITY(FEET/SEC) =   6.78 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   8.84   TC(MIN.) =  41.15

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.745
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   23.30     SUBAREA RUNOFF(CFS) =   35.02
 EFFECTIVE AREA(ACRES) =   148.40   AREA-AVERAGED Fm(INCH/HR) =   .34
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .61
 TOTAL AREA(ACRES) =   148.40      PEAK FLOW RATE(CFS) =  188.35
 TC(MIN) =  41.15

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.745
 SOIL CLASSIFICATION IS "C"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =   15.60     SUBAREA RUNOFF(CFS) =   17.82
 EFFECTIVE AREA(ACRES) =   164.00   AREA-AVERAGED Fm(INCH/HR) =   .36
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .63
 TOTAL AREA(ACRES) =   164.00      PEAK FLOW RATE(CFS) =  204.93
 TC(MIN) =  41.15

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.745
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .5250
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
```

```
 SUBAREA AREA(ACRES) =   30.00      SUBAREA RUNOFF(CFS) =   32.94
 EFFECTIVE AREA(ACRES) =   194.00   AREA-AVERAGED Fm(INCH/HR) =   .38
 AREA-AVERAGED Fp(INCH/HR) =   .60  AREA-AVERAGED Ap =   .64
 TOTAL AREA(ACRES) =   194.00       PEAK FLOW RATE(CFS) =  237.86
 TC(MIN) =  41.15

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.745
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =  202.00      SUBAREA RUNOFF(CFS) =  245.95
 EFFECTIVE AREA(ACRES) =   396.00   AREA-AVERAGED Fm(INCH/HR) =   .39
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .67
 TOTAL AREA(ACRES) =   396.00       PEAK FLOW RATE(CFS) =  483.82
 TC(MIN) =  41.15

****************************************************************************
 FLOW PROCESS FROM NODE     1.03 TO NODE     1.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.745
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   13.70      SUBAREA RUNOFF(CFS) =   20.82
 EFFECTIVE AREA(ACRES) =   409.70   AREA-AVERAGED Fm(INCH/HR) =   .38
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .65
 TOTAL AREA(ACRES) =   409.70       PEAK FLOW RATE(CFS) =  504.64
 TC(MIN) =  41.15

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3130.00
 DOWNSTREAM NODE ELEVATION =   3065.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4500.00
 CHANNEL SLOPE =   .0144
 CHANNEL FLOW THRU SUBAREA(CFS) =    504.64
 FLOW VELOCITY(FEET/SEC) =   9.44 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   7.95   TC(MIN.) =  49.09

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.542
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =    4.20      SUBAREA RUNOFF(CFS) =    5.55
 EFFECTIVE AREA(ACRES) =   413.90   AREA-AVERAGED Fm(INCH/HR) =   .37
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .65
 TOTAL AREA(ACRES) =   413.90       PEAK FLOW RATE(CFS) =  504.64
 TC(MIN) =  49.09

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.542
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   24.80      SUBAREA RUNOFF(CFS) =   33.17
 EFFECTIVE AREA(ACRES) =   438.70   AREA-AVERAGED Fm(INCH/HR) =   .36
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .62
 TOTAL AREA(ACRES) =   438.70       PEAK FLOW RATE(CFS) =  504.64
 TC(MIN) =  49.09

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.542
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
```

```
 SUBAREA AREA(ACRES) =  108.30      SUBAREA RUNOFF(CFS) =  112.09
 EFFECTIVE AREA(ACRES) =   547.00   AREA-AVERAGED Fm(INCH/HR) =   .36
 AREA-AVERAGED Fp(INCH/HR) =   .57  AREA-AVERAGED Ap =   .63
 TOTAL AREA(ACRES) =   547.00       PEAK FLOW RATE(CFS) =  580.65
 TC(MIN) =  49.09

****************************************************************************
 FLOW PROCESS FROM NODE     1.04 TO NODE     1.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.542
 SOIL CLASSIFICATION IS "C"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =    2.50      SUBAREA RUNOFF(CFS) =    2.40
 EFFECTIVE AREA(ACRES) =   549.50   AREA-AVERAGED Fm(INCH/HR) =   .36
 AREA-AVERAGED Fp(INCH/HR) =   .57  AREA-AVERAGED Ap =   .63
 TOTAL AREA(ACRES) =   549.50       PEAK FLOW RATE(CFS) =  583.05
 TC(MIN) =  49.09

****************************************************************************
 FLOW PROCESS FROM NODE     1.05 TO NODE     1.06 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3065.00
 DOWNSTREAM NODE ELEVATION =   3010.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3700.00
 CHANNEL SLOPE =   .0149
 CHANNEL FLOW THRU SUBAREA(CFS) =   583.05
 FLOW VELOCITY(FEET/SEC) =  10.03 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   6.15   TC(MIN.) =  55.24

****************************************************************************
 FLOW PROCESS FROM NODE     1.05 TO NODE     1.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.420
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   78.00      SUBAREA RUNOFF(CFS) =   94.40
 EFFECTIVE AREA(ACRES) =   627.50   AREA-AVERAGED Fm(INCH/HR) =   .33
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .57
 TOTAL AREA(ACRES) =   627.50       PEAK FLOW RATE(CFS) =  617.00
 TC(MIN) =  55.24

****************************************************************************
 FLOW PROCESS FROM NODE     1.05 TO NODE     1.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.420
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   55.00      SUBAREA RUNOFF(CFS) =   67.51
 EFFECTIVE AREA(ACRES) =   682.50   AREA-AVERAGED Fm(INCH/HR) =   .31
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .53
 TOTAL AREA(ACRES) =   682.50       PEAK FLOW RATE(CFS) =  684.51
 TC(MIN) =  55.24

****************************************************************************
 FLOW PROCESS FROM NODE     1.05 TO NODE     1.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.420
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =    9.20      SUBAREA RUNOFF(CFS) =    8.51
 EFFECTIVE AREA(ACRES) =   691.70   AREA-AVERAGED Fm(INCH/HR) =   .31
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .53
 TOTAL AREA(ACRES) =   691.70       PEAK FLOW RATE(CFS) =  693.02
 TC(MIN) =  55.24

****************************************************************************
 FLOW PROCESS FROM NODE     1.06 TO NODE     1.07 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3010.00
 DOWNSTREAM NODE ELEVATION =   2940.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4600.00
 CHANNEL SLOPE =   .0152
```

```
 CHANNEL FLOW THRU SUBAREA(CFS) =    693.02
 FLOW VELOCITY(FEET/SEC) =  10.73 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   7.14   TC(MIN.) =  62.39

****************************************************************************
 FLOW PROCESS FROM NODE     1.06 TO NODE     1.07 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.304
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   91.80      SUBAREA RUNOFF(CFS) =  101.53
 EFFECTIVE AREA(ACRES) =   783.50   AREA-AVERAGED Fm(INCH/HR) =   .28
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .48
 TOTAL AREA(ACRES) =   783.50       PEAK FLOW RATE(CFS) =  722.42
 TC(MIN) =  62.39

****************************************************************************
 FLOW PROCESS FROM NODE     1.06 TO NODE     1.07 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.304
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   34.00      SUBAREA RUNOFF(CFS) =   38.19
 EFFECTIVE AREA(ACRES) =   817.50   AREA-AVERAGED Fm(INCH/HR) =   .27
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .47
 TOTAL AREA(ACRES) =   817.50       PEAK FLOW RATE(CFS) =  760.60
 TC(MIN) =  62.39

****************************************************************************
 FLOW PROCESS FROM NODE     1.07 TO NODE     1.20 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   2940.00
 DOWNSTREAM NODE ELEVATION =   2895.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  6000.00
 CHANNEL SLOPE =   .0075
 CHANNEL FLOW THRU SUBAREA(CFS) =    760.60
 FLOW VELOCITY(FEET/SEC) =   7.76 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  12.88   TC(MIN.) =  75.27

****************************************************************************
 FLOW PROCESS FROM NODE     1.07 TO NODE     1.20 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.143
 SOIL CLASSIFICATION IS "B"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0750
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   81.70      SUBAREA RUNOFF(CFS) =   78.56
 EFFECTIVE AREA(ACRES) =   899.20   AREA-AVERAGED Fm(INCH/HR) =   .25
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .43
 TOTAL AREA(ACRES) =   899.20       PEAK FLOW RATE(CFS) =  760.60
 TC(MIN) =  75.27
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =    899.20  TC(MIN.) =     75.27
 EFFECTIVE AREA(ACRES) =    899.20  AREA-AVERAGED Fm(INCH/HR)=   .25
 AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .43
 PEAK FLOW RATE(CFS)   =    760.60
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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                        Analysis prepared by:

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 ************************** DESCRIPTION OF STUDY **************************
*                          DESIGN NODE 1.20                              *
*              TIME OF CONCENTRATION AT NODE 5.07, WATERSHED 5           *
*                                                                        *
 **************************************************************************

  FILE NAME: RATSC5.INP
  TIME/DATE OF STUDY: 14:10   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     5.00 TO NODE     5.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  NATURAL POOR COVER
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   950.00
  UPSTREAM ELEVATION(FEET) =   4425.00
  DOWNSTREAM ELEVATION(FEET) =   4375.00
  ELEVATION DIFFERENCE(FEET) =     50.00
  TC(MIN.) =  .525*[(  950.00** 3.00)/(    50.00)]** .20 =   14.689
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.588
  SOIL CLASSIFICATION IS "A"
  NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .4100
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .41
  SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA RUNOFF(CFS) =     24.32
  TOTAL AREA(ACRES) =      8.50   PEAK FLOW RATE(CFS) =     24.32

**************************************************************************
  FLOW PROCESS FROM NODE     5.01 TO NODE     5.02 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   4375.00
  DOWNSTREAM NODE ELEVATION =   4300.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1500.00
  CHANNEL SLOPE =   .0500
  CHANNEL FLOW THRU SUBAREA(CFS) =     24.32
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0500 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   3.62 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   6.90   TC(MIN.) =  21.59

**************************************************************************
  FLOW PROCESS FROM NODE     5.01 TO NODE     5.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.741
  SOIL CLASSIFICATION IS "A"
  NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .4100
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .41
  SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA AREA(ACRES) =    9.20     SUBAREA RUNOFF(CFS) =   19.30
  EFFECTIVE AREA(ACRES) =   17.70   AREA-AVERAGED Fm(INCH/HR) =   .41
  AREA-AVERAGED Fp(INCH/HR) =   .41  AREA-AVERAGED Ap =  1.00
  TOTAL AREA(ACRES) =   17.70       PEAK FLOW RATE(CFS) =   37.13
  TC(MIN) =  21.59

**************************************************************************
  FLOW PROCESS FROM NODE     5.02 TO NODE     5.03 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
```

```
 UPSTREAM NODE ELEVATION =   4300.00
 DOWNSTREAM NODE ELEVATION =   4220.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2150.00
 CHANNEL SLOPE =   .0372
 CHANNEL FLOW THRU SUBAREA(CFS) =     37.13
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0372 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   3.60 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   9.96   TC(MIN.) =  31.54

****************************************************************************
 FLOW PROCESS FROM NODE     5.02 TO NODE     5.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.102
 SOIL CLASSIFICATION IS "A"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .4100
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .41
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   34.90      SUBAREA RUNOFF(CFS) =   53.14
 EFFECTIVE AREA(ACRES) =   52.60   AREA-AVERAGED Fm(INCH/HR) =   .41
 AREA-AVERAGED Fp(INCH/HR) =   .41  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   52.60       PEAK FLOW RATE(CFS) =   80.09
 TC(MIN) =  31.54

****************************************************************************
 FLOW PROCESS FROM NODE     5.02 TO NODE     5.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.102
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =  .80
 SUBAREA AREA(ACRES) =   18.40      SUBAREA RUNOFF(CFS) =   21.95
 EFFECTIVE AREA(ACRES) =   71.00   AREA-AVERAGED Fm(INCH/HR) =   .50
 AREA-AVERAGED Fp(INCH/HR) =   .53  AREA-AVERAGED Ap =  .95
 TOTAL AREA(ACRES) =   71.00       PEAK FLOW RATE(CFS) =  102.04
 TC(MIN) =  31.54

****************************************************************************
 FLOW PROCESS FROM NODE     5.03 TO NODE     5.04 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4220.00
 DOWNSTREAM NODE ELEVATION =   4150.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2150.00
 CHANNEL SLOPE =   .0326
 CHANNEL FLOW THRU SUBAREA(CFS) =    102.04
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0326 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   4.71 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   7.60   TC(MIN.) =  39.14

****************************************************************************
 FLOW PROCESS FROM NODE     5.03 TO NODE     5.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.807
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =  .80
 SUBAREA AREA(ACRES) =   66.10      SUBAREA RUNOFF(CFS) =   61.33
 EFFECTIVE AREA(ACRES) =  137.10   AREA-AVERAGED Fm(INCH/HR) =   .64
 AREA-AVERAGED Fp(INCH/HR) =   .72  AREA-AVERAGED Ap =  .88
 TOTAL AREA(ACRES) =  137.10       PEAK FLOW RATE(CFS) =  144.53
 TC(MIN) =  39.14

****************************************************************************
 FLOW PROCESS FROM NODE     5.04 TO NODE     5.05 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4150.00
 DOWNSTREAM NODE ELEVATION =   4020.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  5000.00
 CHANNEL SLOPE =   .0260
 CHANNEL FLOW THRU SUBAREA(CFS) =    144.53
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0260 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   4.73 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  17.61   TC(MIN.) =  56.76

****************************************************************************
 FLOW PROCESS FROM NODE     5.04 TO NODE     5.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.393
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  192.80     SUBAREA RUNOFF(CFS) =  107.08
 EFFECTIVE AREA(ACRES) =  329.90   AREA-AVERAGED Fm(INCH/HR) =   .72
 AREA-AVERAGED Fp(INCH/HR) =   .86  AREA-AVERAGED Ap =   .83
 TOTAL AREA(ACRES) =  329.90       PEAK FLOW RATE(CFS) =  200.56
 TC(MIN) =  56.76

****************************************************************************
 FLOW PROCESS FROM NODE     5.05 TO NODE     5.06 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
 UPSTREAM NODE ELEVATION =  4020.00
 DOWNSTREAM NODE ELEVATION =  3890.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  5400.00
 CHANNEL SLOPE =   .0241
 CHANNEL FLOW THRU SUBAREA(CFS) =    200.56
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0241 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =  5.08 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  17.73   TC(MIN.) =  74.49

****************************************************************************
 FLOW PROCESS FROM NODE     5.05 TO NODE     5.06 IS CODE =  8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.152
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  106.51     SUBAREA RUNOFF(CFS) =  36.02
 EFFECTIVE AREA(ACRES) =  436.41   AREA-AVERAGED Fm(INCH/HR) =   .73
 AREA-AVERAGED Fp(INCH/HR) =   .89  AREA-AVERAGED Ap =   .82
 TOTAL AREA(ACRES) =  436.41       PEAK FLOW RATE(CFS) =  200.56
 TC(MIN) =  74.49

****************************************************************************
 FLOW PROCESS FROM NODE     5.05 TO NODE     5.06 IS CODE =  8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.152
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  142.34     SUBAREA RUNOFF(CFS) =  90.16
 EFFECTIVE AREA(ACRES) =  578.75   AREA-AVERAGED Fm(INCH/HR) =   .66
 AREA-AVERAGED Fp(INCH/HR) =   .81  AREA-AVERAGED Ap =   .82
 TOTAL AREA(ACRES) =  578.75       PEAK FLOW RATE(CFS) =  255.07
 TC(MIN) =  74.49

****************************************************************************
 FLOW PROCESS FROM NODE     5.06 TO NODE     5.07 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
 UPSTREAM NODE ELEVATION =  3890.00
 DOWNSTREAM NODE ELEVATION =  3770.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  5600.00
 CHANNEL SLOPE =   .0214
 CHANNEL FLOW THRU SUBAREA(CFS) =    255.07
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0214 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =  5.19 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  17.99   TC(MIN.) =  92.47

****************************************************************************
 FLOW PROCESS FROM NODE     5.06 TO NODE     5.07 IS CODE =  8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =   .990
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  137.74     SUBAREA RUNOFF(CFS) =  67.18
 EFFECTIVE AREA(ACRES) =  716.49   AREA-AVERAGED Fm(INCH/HR) =   .62
 AREA-AVERAGED Fp(INCH/HR) =   .76  AREA-AVERAGED Ap =   .81
 TOTAL AREA(ACRES) =  716.49       PEAK FLOW RATE(CFS) =  255.07
 TC(MIN) =  92.47
==========================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    716.49  TC(MIN.) =    92.47
 EFFECTIVE AREA(ACRES) =    716.49  AREA-AVERAGED Fm(INCH/HR)=   .62
```

```
 AREA-AVERAGED Fp(INCH/HR) =   .76  AREA-AVERAGED Ap =   .81
 PEAK FLOW RATE(CFS)    =   255.07
================================================================================
================================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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                        Analysis prepared by:

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 ************************** DESCRIPTION OF STUDY **************************
*                          DESIGN NODE 1.20                              *
*              TIME OF CONCENTRATION AT NODE 7.09, WATERSHED 6           *
*                                                                        *
 **************************************************************************

  FILE NAME: RATSC6.INP
  TIME/DATE OF STUDY: 14:16   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     6.00 TO NODE     6.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 1 DWELLING/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   900.00
  UPSTREAM ELEVATION(FEET) =   3480.00
  DOWNSTREAM ELEVATION(FEET) =   3475.00
  ELEVATION DIFFERENCE(FEET) =      5.00
  TC(MIN.) =  .469*[(  900.00** 3.00)/(     5.00)]** .20 =   20.134
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.878
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA RUNOFF(CFS) =     21.87
  TOTAL AREA(ACRES) =     10.00   PEAK FLOW RATE(CFS) =     21.87


**************************************************************************
  FLOW PROCESS FROM NODE     6.01 TO NODE     6.02 IS CODE = 5.1
--------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   3475.00
  DOWNSTREAM NODE ELEVATION =   3420.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   900.00
  CHANNEL SLOPE =   .0611
  CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =   2.000
  MANNING'S FACTOR =  .045   MAXIMUM DEPTH(FEET) =   2.50
  CHANNEL FLOW THRU SUBAREA(CFS) =    21.87
  FLOW VELOCITY(FEET/SEC) =   5.31   FLOW DEPTH(FEET) =    .65
  TRAVEL TIME(MIN.) =   2.83   TC(MIN.) =  22.96


**************************************************************************
  FLOW PROCESS FROM NODE     6.01 TO NODE     6.02 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.625
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =   25.70      SUBAREA RUNOFF(CFS) =   50.35
  EFFECTIVE AREA(ACRES) =   35.70   AREA-AVERAGED Fm(INCH/HR) =   .45
  AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
  TOTAL AREA(ACRES) =   35.70       PEAK FLOW RATE(CFS) =   69.95
  TC(MIN) =  22.96


**************************************************************************
  FLOW PROCESS FROM NODE     6.02 TO NODE     6.03 IS CODE = 5.1
--------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
```

```
 UPSTREAM NODE ELEVATION =   3420.00
 DOWNSTREAM NODE ELEVATION =   3370.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2500.00
 CHANNEL SLOPE =   .0200
 CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =   2.000
 MANNING'S FACTOR =  .045   MAXIMUM DEPTH(FEET) =   3.00
 CHANNEL FLOW THRU SUBAREA(CFS) =    69.95
 FLOW VELOCITY(FEET/SEC) =   5.03   FLOW DEPTH(FEET) =   1.67
 TRAVEL TIME(MIN.) =   8.28   TC(MIN.) =  31.24

****************************************************************************
 FLOW PROCESS FROM NODE     6.02 TO NODE     6.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.116
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   70.70     SUBAREA RUNOFF(CFS) =  106.13
 EFFECTIVE AREA(ACRES) =   106.40   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   106.40      PEAK FLOW RATE(CFS) =  159.72
 TC(MIN) =  31.24

****************************************************************************
 FLOW PROCESS FROM NODE     6.03 TO NODE     6.04 IS CODE = 5.1
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3370.00
 DOWNSTREAM NODE ELEVATION =   3280.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4300.00
 CHANNEL SLOPE =   .0209
 CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =   2.000
 MANNING'S FACTOR =  .042   MAXIMUM DEPTH(FEET) =   3.00
 CHANNEL FLOW THRU SUBAREA(CFS) =   159.72
 FLOW VELOCITY(FEET/SEC) =   6.73   FLOW DEPTH(FEET) =   2.42
 TRAVEL TIME(MIN.) =  10.66   TC(MIN.) =  41.90

****************************************************************************
 FLOW PROCESS FROM NODE     6.03 TO NODE     6.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.723
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  119.40     SUBAREA RUNOFF(CFS) =  137.01
 EFFECTIVE AREA(ACRES) =   225.80   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   225.80      PEAK FLOW RATE(CFS) =  259.09
 TC(MIN) =  41.90

****************************************************************************
 FLOW PROCESS FROM NODE     6.03 TO NODE     6.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.723
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .6000
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   69.76     SUBAREA RUNOFF(CFS) =   70.50
 EFFECTIVE AREA(ACRES) =   295.56   AREA-AVERAGED Fm(INCH/HR) =   .48
 AREA-AVERAGED Fp(INCH/HR) =   .60  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   295.56      PEAK FLOW RATE(CFS) =  329.60
 TC(MIN) =  41.90

****************************************************************************
 FLOW PROCESS FROM NODE     6.04 TO NODE     6.05 IS CODE = 5.1
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3280.00
 DOWNSTREAM NODE ELEVATION =   3215.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4000.00
 CHANNEL SLOPE =   .0162
 CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =   2.000
 MANNING'S FACTOR =  .040   MAXIMUM DEPTH(FEET) =   4.00
 CHANNEL FLOW THRU SUBAREA(CFS) =   329.60
 FLOW VELOCITY(FEET/SEC) =   7.66   FLOW DEPTH(FEET) =   3.55
 TRAVEL TIME(MIN.) =   8.70   TC(MIN.) =  50.60

****************************************************************************
 FLOW PROCESS FROM NODE     6.04 TO NODE     6.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.510
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =  284.60     SUBAREA RUNOFF(CFS) =  271.98
  EFFECTIVE AREA(ACRES) =  580.16   AREA-AVERAGED Fm(INCH/HR) =   .47
  AREA-AVERAGED Fp(INCH/HR) =   .58  AREA-AVERAGED Ap =   .80
  TOTAL AREA(ACRES) =  580.16       PEAK FLOW RATE(CFS) =  544.88
  TC(MIN) =  50.60

****************************************************************************
  FLOW PROCESS FROM NODE     6.04 TO NODE     6.05 IS CODE =  8
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.510
  SOIL CLASSIFICATION IS "B"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .6000
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
  SUBAREA AREA(ACRES) =  36.80      SUBAREA RUNOFF(CFS) =  30.13
  EFFECTIVE AREA(ACRES) =  616.96   AREA-AVERAGED Fm(INCH/HR) =   .47
  AREA-AVERAGED Fp(INCH/HR) =   .59  AREA-AVERAGED Ap =   .80
  TOTAL AREA(ACRES) =  616.96       PEAK FLOW RATE(CFS) =  575.02
  TC(MIN) =  50.60

****************************************************************************
  FLOW PROCESS FROM NODE     6.05 TO NODE     6.05 IS CODE =  1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =  50.60
  RAINFALL INTENSITY(INCH/HR) =  1.51
  AREA-AVERAGED Fm(INCH/HR) =  .47
  AREA-AVERAGED Fp(INCH/HR) =  .59
  AREA-AVERAGED Ap =  .80
  EFFECTIVE STREAM AREA(ACRES) =  616.96
  TOTAL STREAM AREA(ACRES) =  616.96
  PEAK FLOW RATE(CFS) AT CONFLUENCE =  575.02

****************************************************************************
  FLOW PROCESS FROM NODE     6.20 TO NODE     6.21 IS CODE = 2.1
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 1 DWELLING/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  800.00
  UPSTREAM ELEVATION(FEET) =  3480.00
  DOWNSTREAM ELEVATION(FEET) =  3460.00
  ELEVATION DIFFERENCE(FEET) =  20.00
  TC(MIN.) =  .469*[(  800.00** 3.00)/(   20.00)]** .20 =  14.217
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.671
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =  .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =  .80
  SUBAREA RUNOFF(CFS) =  29.01
  TOTAL AREA(ACRES) =  10.00   PEAK FLOW RATE(CFS) =  29.01

****************************************************************************
  FLOW PROCESS FROM NODE     6.21 TO NODE     6.22 IS CODE = 5.1
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  UPSTREAM NODE ELEVATION =  3460.00
  DOWNSTREAM NODE ELEVATION =  3430.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1500.00
  CHANNEL SLOPE =  .0200
  CHANNEL BASE(FEET) =  5.00   "Z" FACTOR =  2.000
  MANNING'S FACTOR =  .045   MAXIMUM DEPTH(FEET) =  3.00
  CHANNEL FLOW THRU SUBAREA(CFS) =  29.01
  FLOW VELOCITY(FEET/SEC) =  3.90   FLOW DEPTH(FEET) =  1.05
  TRAVEL TIME(MIN.) =  6.41   TC(MIN.) =  20.63

****************************************************************************
  FLOW PROCESS FROM NODE     6.21 TO NODE     6.22 IS CODE =  8
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.830
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =  .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =  .80
  SUBAREA AREA(ACRES) =  29.40      SUBAREA RUNOFF(CFS) =  63.01
  EFFECTIVE AREA(ACRES) =  39.40    AREA-AVERAGED Fm(INCH/HR) =  .45
  AREA-AVERAGED Fp(INCH/HR) =  .56  AREA-AVERAGED Ap =  .80
  TOTAL AREA(ACRES) =  39.40        PEAK FLOW RATE(CFS) =  84.45
  TC(MIN) =  20.63
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     6.22 TO NODE     6.23 IS CODE = 5.1
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3430.00
 DOWNSTREAM NODE ELEVATION =   3380.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2600.00
 CHANNEL SLOPE =    .0192
 CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =   2.000
 MANNING'S FACTOR =  .042   MAXIMUM DEPTH(FEET) =   3.50
 CHANNEL FLOW THRU SUBAREA(CFS) =     84.45
 FLOW VELOCITY(FEET/SEC) =   5.50   FLOW DEPTH(FEET) =   1.79
 TRAVEL TIME(MIN.) =   7.88   TC(MIN.) =  28.51

****************************************************************************
 FLOW PROCESS FROM NODE     6.22 TO NODE     6.23 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.256
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   72.56      SUBAREA RUNOFF(CFS) =  118.07
 EFFECTIVE AREA(ACRES) =   111.96   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   111.96       PEAK FLOW RATE(CFS) =  182.18
 TC(MIN) =  28.51

****************************************************************************
 FLOW PROCESS FROM NODE     6.23 TO NODE     6.24 IS CODE = 5.1
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3380.00
 DOWNSTREAM NODE ELEVATION =   3338.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2000.00
 CHANNEL SLOPE =    .0210
 CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =   2.000
 MANNING'S FACTOR =  .040   MAXIMUM DEPTH(FEET) =   4.50
 CHANNEL FLOW THRU SUBAREA(CFS) =    182.18
 FLOW VELOCITY(FEET/SEC) =   7.22   FLOW DEPTH(FEET) =   2.51
 TRAVEL TIME(MIN.) =   4.62   TC(MIN.) =  33.12

****************************************************************************
 FLOW PROCESS FROM NODE     6.23 TO NODE     6.24 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.031
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  107.40      SUBAREA RUNOFF(CFS) =  153.02
 EFFECTIVE AREA(ACRES) =   219.36   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   219.36       PEAK FLOW RATE(CFS) =  312.53
 TC(MIN) =  33.12

****************************************************************************
 FLOW PROCESS FROM NODE     6.24 TO NODE     6.25 IS CODE = 5.1
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3338.00
 DOWNSTREAM NODE ELEVATION =   3278.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3200.00
 CHANNEL SLOPE =    .0188
 CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =   2.000
 MANNING'S FACTOR =  .040   MAXIMUM DEPTH(FEET) =   4.50
 CHANNEL FLOW THRU SUBAREA(CFS) =    312.53
 FLOW VELOCITY(FEET/SEC) =   7.97   FLOW DEPTH(FEET) =   3.35
 TRAVEL TIME(MIN.) =   6.70   TC(MIN.) =  39.82

****************************************************************************
 FLOW PROCESS FROM NODE     6.24 TO NODE     6.25 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.785
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .6000
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   55.00      SUBAREA RUNOFF(CFS) =   58.68
 EFFECTIVE AREA(ACRES) =   274.36   AREA-AVERAGED Fm(INCH/HR) =   .48
 AREA-AVERAGED Fp(INCH/HR) =   .60  AREA-AVERAGED Ap =   .80
```

```
 TOTAL AREA(ACRES) =   274.36       PEAK FLOW RATE(CFS) =  322.73
 TC(MIN) =  39.82

****************************************************************************
 FLOW PROCESS FROM NODE     6.24 TO NODE     6.25 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.785
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =    9.27     SUBAREA RUNOFF(CFS) =   11.16
 EFFECTIVE AREA(ACRES) =   283.63   AREA-AVERAGED Fm(INCH/HR) =   .48
 AREA-AVERAGED Fp(INCH/HR) =   .60  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   283.63       PEAK FLOW RATE(CFS) =  333.89
 TC(MIN) =  39.82

****************************************************************************
 FLOW PROCESS FROM NODE     6.25 TO NODE     6.05 IS CODE = 5.1
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3278.00
 DOWNSTREAM NODE ELEVATION =   3220.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3000.00
 CHANNEL SLOPE =   .0193
 CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =   2.000
 MANNING'S FACTOR =  .040   MAXIMUM DEPTH(FEET) =   5.00
 CHANNEL FLOW THRU SUBAREA(CFS) =    333.89
 FLOW VELOCITY(FEET/SEC) =   8.21   FLOW DEPTH(FEET) =   3.43
 TRAVEL TIME(MIN.) =   6.09   TC(MIN.) =  45.91

****************************************************************************
 FLOW PROCESS FROM NODE     6.25 TO NODE     6.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.616
 SOIL CLASSIFICATION IS "B"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .6000
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .75
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   24.80      SUBAREA RUNOFF(CFS) =   22.68
 EFFECTIVE AREA(ACRES) =   308.43   AREA-AVERAGED Fm(INCH/HR) =   .49
 AREA-AVERAGED Fp(INCH/HR) =   .61  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   308.43       PEAK FLOW RATE(CFS) =  333.89
 TC(MIN) =  45.91

****************************************************************************
 FLOW PROCESS FROM NODE     6.25 TO NODE     6.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.616
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   69.76      SUBAREA RUNOFF(CFS) =   73.34
 EFFECTIVE AREA(ACRES) =   378.19   AREA-AVERAGED Fm(INCH/HR) =   .48
 AREA-AVERAGED Fp(INCH/HR) =   .60  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   378.19       PEAK FLOW RATE(CFS) =  386.67
 TC(MIN) =  45.91

****************************************************************************
 FLOW PROCESS FROM NODE     6.05 TO NODE     6.05 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =  45.91
 RAINFALL INTENSITY(INCH/HR) =   1.62
 AREA-AVERAGED Fm(INCH/HR) =   .48
 AREA-AVERAGED Fp(INCH/HR) =   .60
 AREA-AVERAGED Ap =   .80
 EFFECTIVE STREAM AREA(ACRES) =  378.19
 TOTAL STREAM AREA(ACRES) =  378.19
 PEAK FLOW RATE(CFS) AT CONFLUENCE =    386.67

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
        Q       Tc     Intensity     Fp       Ap       Fm         Ae
     (CFS)   (MIN.)   (INCH/HR)  (INCH/HR)          (INCH/HR)   (ACRES)
1    925.52    50.60      1.510       .60    .80        .48      995.15
2    961.69    45.91      1.616       .60    .80        .48      938.02

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =    961.69   Tc(MIN.) =   45.911
```

```
 EFFECTIVE AREA(ACRES) =    938.02  AREA-AVERAGED Fm(INCH/HR) =   .48
 AREA-AVERAGED Fp(INCH/HR) =   .60  AREA-AVERAGED Ap =  .80
 TOTAL AREA(ACRES) =    995.15

****************************************************************************
 FLOW PROCESS FROM NODE     6.05 TO NODE     7.09 IS CODE = 5.1
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3215.00
 DOWNSTREAM NODE ELEVATION =   3120.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  6000.00
 CHANNEL SLOPE =   .0158
 CHANNEL BASE(FEET) =   10.00   "Z" FACTOR =   3.000
 MANNING'S FACTOR =  .030   MAXIMUM DEPTH(FEET) =   4.80
 CHANNEL FLOW THRU SUBAREA(CFS) =    961.69
 FLOW VELOCITY(FEET/SEC) =  11.31   FLOW DEPTH(FEET) =   3.91
 TRAVEL TIME(MIN.) =   8.84   TC(MIN.) =  54.75

****************************************************************************
 FLOW PROCESS FROM NODE     6.05 TO NODE     7.09 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.429
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 2 DWELLINGS/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .3920
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .70
 SUBAREA AREA(ACRES) =  101.00      SUBAREA RUNOFF(CFS) =   94.24
 EFFECTIVE AREA(ACRES) =  1039.02   AREA-AVERAGED Fm(INCH/HR) =   .47
 AREA-AVERAGED Fp(INCH/HR) =   .59  AREA-AVERAGED Ap =   .79
 TOTAL AREA(ACRES) =  1096.15       PEAK FLOW RATE(CFS) =  961.69
 TC(MIN) =  54.75

****************************************************************************
 FLOW PROCESS FROM NODE     6.05 TO NODE     7.09 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.429
 SOIL CLASSIFICATION IS "C"
 COMMERCIAL SUBAREA LOSS RATE, Fm(INCH/HR) =  .0560
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .10
 SUBAREA AREA(ACRES) =   11.00      SUBAREA RUNOFF(CFS) =   13.59
 EFFECTIVE AREA(ACRES) =  1050.02   AREA-AVERAGED Fm(INCH/HR) =   .46
 AREA-AVERAGED Fp(INCH/HR) =   .59  AREA-AVERAGED Ap =   .78
 TOTAL AREA(ACRES) =  1107.15       PEAK FLOW RATE(CFS) =  961.69
 TC(MIN) =  54.75
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =   1107.15  TC(MIN.) =     54.75
 EFFECTIVE AREA(ACRES) =   1050.02  AREA-AVERAGED Fm(INCH/HR)=   .46
 AREA-AVERAGED Fp(INCH/HR) =   .59  AREA-AVERAGED Ap =   .78
 PEAK FLOW RATE(CFS)   =    961.69

 ** PEAK FLOW RATE TABLE **
        Q       Tc     Intensity     Fp        Ap       Fm          Ae
      (CFS)   (MIN.)   (INCH/HR)  (INCH/HR)          (INCH/HR)   (ACRES)
 1    961.69    54.75      1.429       .59    .78        .46     1050.02
 2    925.52    59.53      1.347       .59    .78        .46     1107.15
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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                        Analysis prepared by:

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 ************************** DESCRIPTION OF STUDY **************************
*                           DESIGN NODE 1.20                             *
*              TIME OF CONCENTRATION AT NODE 7.09, WATERSHED 7           *
*                                                                        *
 **************************************************************************

  FILE NAME: RATSC7.INP
  TIME/DATE OF STUDY: 14:25   6/28/1992
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


**************************************************************************
  FLOW PROCESS FROM NODE     7.00 TO NODE     7.01 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  DEVELOPMENT IS  SINGLE FAMILY RESIDENTIAL -> 1 DWELLING/ACRE
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =  3720.00
  DOWNSTREAM ELEVATION(FEET) =  3700.00
  ELEVATION DIFFERENCE(FEET) =  20.00
  TC(MIN.) =  .469*[( 1000.00** 3.00)/(   20.00)]** .20 =  16.254
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.343
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =  .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =  .80
  SUBAREA RUNOFF(CFS) =  26.05
  TOTAL AREA(ACRES) =  10.00   PEAK FLOW RATE(CFS) =  26.05


**************************************************************************
  FLOW PROCESS FROM NODE     7.01 TO NODE     7.02 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =  3700.00
  DOWNSTREAM NODE ELEVATION =  3655.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2600.00
  CHANNEL SLOPE =  .0173
  CHANNEL FLOW THRU SUBAREA(CFS) =  26.05
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0173 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =  2.18 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  19.86   TC(MIN.) =  36.12


**************************************************************************
  FLOW PROCESS FROM NODE     7.01 TO NODE     7.02 IS CODE =  8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.912
  SOIL CLASSIFICATION IS "C"
  RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =  .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =  .80
  SUBAREA AREA(ACRES) =  20.00     SUBAREA RUNOFF(CFS) =  26.35
  EFFECTIVE AREA(ACRES) =  30.00   AREA-AVERAGED Fm(INCH/HR) =  .45
  AREA-AVERAGED Fp(INCH/HR) =  .56  AREA-AVERAGED Ap =  .80
  TOTAL AREA(ACRES) =  30.00       PEAK FLOW RATE(CFS) =  39.52
  TC(MIN) =  36.12


**************************************************************************
  FLOW PROCESS FROM NODE     7.02 TO NODE     7.03 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
```

```
 UPSTREAM NODE ELEVATION =   3655.00
 DOWNSTREAM NODE ELEVATION =   3590.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2700.00
 CHANNEL SLOPE =   .0241
 CHANNEL FLOW THRU SUBAREA(CFS) =     39.52
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0241 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   2.96 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  15.22   TC(MIN.) =  51.34

****************************************************************************
 FLOW PROCESS FROM NODE     7.02 TO NODE     7.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.494
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   42.20      SUBAREA RUNOFF(CFS) =   39.75
 EFFECTIVE AREA(ACRES) =   72.20   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   72.20       PEAK FLOW RATE(CFS) =   68.00
 TC(MIN) =  51.34

****************************************************************************
 FLOW PROCESS FROM NODE     7.03 TO NODE     7.04 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3590.00
 DOWNSTREAM NODE ELEVATION =   3475.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  4500.00
 CHANNEL SLOPE =   .0256
 CHANNEL FLOW THRU SUBAREA(CFS) =     68.00
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0256 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   3.65 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  20.55   TC(MIN.) =  71.89

****************************************************************************
 FLOW PROCESS FROM NODE     7.03 TO NODE     7.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.181
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  200.20      SUBAREA RUNOFF(CFS) =  132.01
 EFFECTIVE AREA(ACRES) =  272.40   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =  272.40       PEAK FLOW RATE(CFS) =  179.62
 TC(MIN) =  71.89

****************************************************************************
 FLOW PROCESS FROM NODE     7.04 TO NODE     7.05 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   3475.00
 DOWNSTREAM NODE ELEVATION =   3390.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3700.00
 CHANNEL SLOPE =   .0230
 CHANNEL FLOW THRU SUBAREA(CFS) =    179.62
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0230 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   4.78 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  12.90   TC(MIN.) =  84.79

****************************************************************************
 FLOW PROCESS FROM NODE     7.04 TO NODE     7.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.052
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   78.10      SUBAREA RUNOFF(CFS) =   42.45
 EFFECTIVE AREA(ACRES) =  350.50   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =  350.50       PEAK FLOW RATE(CFS) =  190.49
 TC(MIN) =  84.79

****************************************************************************
 FLOW PROCESS FROM NODE     7.05 TO NODE     7.06 IS CODE = 5.2
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
```

```
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
================================================================================
 UPSTREAM NODE ELEVATION =   3390.00
 DOWNSTREAM NODE ELEVATION =   3340.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2700.00
 CHANNEL SLOPE =   .0185
 CHANNEL FLOW THRU SUBAREA(CFS) =    190.49
 FLOW VELOCITY(FEET/SEC) =   7.86 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   5.72   TC(MIN.) =  90.52

********************************************************************************
 FLOW PROCESS FROM NODE     7.05 TO NODE     7.06 IS CODE =   8
--------------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.005
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   73.50      SUBAREA RUNOFF(CFS) =   36.84
 EFFECTIVE AREA(ACRES) =   424.00   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   424.00       PEAK FLOW RATE(CFS) =  212.49
 TC(MIN) =  90.52

********************************************************************************
 FLOW PROCESS FROM NODE     7.06 TO NODE     7.07 IS CODE = 5.2
--------------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
================================================================================
 UPSTREAM NODE ELEVATION =   3340.00
 DOWNSTREAM NODE ELEVATION =   3280.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2800.00
 CHANNEL SLOPE =   .0214
 CHANNEL FLOW THRU SUBAREA(CFS) =    212.49
 FLOW VELOCITY(FEET/SEC) =   8.75 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   5.33   TC(MIN.) =  95.85

********************************************************************************
 FLOW PROCESS FROM NODE     7.06 TO NODE     7.07 IS CODE =   8
--------------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =   .965
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   36.70      SUBAREA RUNOFF(CFS) =   17.09
 EFFECTIVE AREA(ACRES) =   460.70   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   460.70       PEAK FLOW RATE(CFS) =  214.52
 TC(MIN) =  95.85

********************************************************************************
 FLOW PROCESS FROM NODE     7.07 TO NODE     7.08 IS CODE = 5.2
--------------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
================================================================================
 UPSTREAM NODE ELEVATION =   3280.00
 DOWNSTREAM NODE ELEVATION =   3235.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3000.00
 CHANNEL SLOPE =   .0150
 CHANNEL FLOW THRU SUBAREA(CFS) =    214.52
 FLOW VELOCITY(FEET/SEC) =   7.34 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   6.81   TC(MIN.) = 102.66

********************************************************************************
 FLOW PROCESS FROM NODE     7.07 TO NODE     7.08 IS CODE =   8
--------------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =   .920
 SOIL CLASSIFICATION IS "C"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =  508.70      SUBAREA RUNOFF(CFS) =  216.13
 EFFECTIVE AREA(ACRES) =   969.40   AREA-AVERAGED Fm(INCH/HR) =   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 TOTAL AREA(ACRES) =   969.40       PEAK FLOW RATE(CFS) =  411.86
 TC(MIN) = 102.66
================================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    969.40  TC(MIN.) =    102.66
 EFFECTIVE AREA(ACRES) =    969.40  AREA-AVERAGED Fm(INCH/HR)=   .45
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .80
 PEAK FLOW RATE(CFS)    =    411.86
================================================================================
================================================================================
 END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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                        Analysis prepared by:

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 ************************* DESCRIPTION OF STUDY *************************
*                          DESIGN NODE 1.20                              *
*              TIME OF CONCENTRATION AT NODE 8.06, WATERSHED 8           *
*                                                                        *
 ************************************************************************

  FILE NAME: RATSC8.INP
  TIME/DATE OF STUDY: 14:29   6/28/1992
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE =  .90
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE =  .7000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3400


************************************************************************
  FLOW PROCESS FROM NODE     8.00 TO NODE     8.01 IS CODE = 2.1
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
  DEVELOPMENT IS PUBLIC PARK
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   500.00
  UPSTREAM ELEVATION(FEET) =   4640.00
  DOWNSTREAM ELEVATION(FEET) =   4600.00
  ELEVATION DIFFERENCE(FEET) =     40.00
  TC(MIN.) =  .483*[(  500.00** 3.00)/(    40.00)]** .20 =    9.614
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.828
  SOIL CLASSIFICATION IS "C"
  PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
  SUBAREA RUNOFF(CFS) =     35.25
  TOTAL AREA(ACRES) =      9.00   PEAK FLOW RATE(CFS) =     35.25


************************************************************************
  FLOW PROCESS FROM NODE     8.01 TO NODE     8.02 IS CODE = 5.3
------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
========================================================================
  UPSTREAM NODE ELEVATION =   4600.00
  DOWNSTREAM NODE ELEVATION =   4540.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   900.00
  CHANNEL SLOPE =   .0667
  CHANNEL FLOW THRU SUBAREA(CFS) =     35.25
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0667 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   4.74 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   3.17   TC(MIN.) =  12.78


************************************************************************
  FLOW PROCESS FROM NODE     8.01 TO NODE     8.02 IS CODE =   8
------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.955
  SOIL CLASSIFICATION IS "C"
  PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
  SUBAREA AREA(ACRES) =   82.00      SUBAREA RUNOFF(CFS) =  256.78
  EFFECTIVE AREA(ACRES) =    91.00   AREA-AVERAGED Fm(INCH/HR) =   .48
  AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .85
  TOTAL AREA(ACRES) =    91.00       PEAK FLOW RATE(CFS) =  284.96
  TC(MIN) =  12.78


************************************************************************
  FLOW PROCESS FROM NODE     8.02 TO NODE     8.03 IS CODE = 5.3
------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
========================================================================
```

```
 UPSTREAM NODE ELEVATION =   4540.00
 DOWNSTREAM NODE ELEVATION =   4420.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2400.00
 CHANNEL SLOPE =    .0500
 CHANNEL FLOW THRU SUBAREA(CFS) =    284.96
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0500 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   8.22 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   4.86   TC(MIN.) =  17.65

****************************************************************************
 FLOW PROCESS FROM NODE     8.02 TO NODE     8.03 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.156
 SOIL CLASSIFICATION IS "C"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =    .85
 SUBAREA AREA(ACRES) =   90.00      SUBAREA RUNOFF(CFS) =  217.10
 EFFECTIVE AREA(ACRES) =   181.00   AREA-AVERAGED Fm(INCH/HR) =   .48
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .85
 TOTAL AREA(ACRES) =   181.00       PEAK FLOW RATE(CFS) =  436.61
 TC(MIN) =  17.65

****************************************************************************
 FLOW PROCESS FROM NODE     8.03 TO NODE     8.04 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4420.00
 DOWNSTREAM NODE ELEVATION =   4340.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  1800.00
 CHANNEL SLOPE =    .0444
 CHANNEL FLOW THRU SUBAREA(CFS) =    436.61
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0444 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   8.94 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   3.36   TC(MIN.) =  21.00

****************************************************************************
 FLOW PROCESS FROM NODE     8.03 TO NODE     8.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.794
 SOIL CLASSIFICATION IS "C"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =    .85
 SUBAREA AREA(ACRES) =  116.70      SUBAREA RUNOFF(CFS) =  243.46
 EFFECTIVE AREA(ACRES) =   297.70   AREA-AVERAGED Fm(INCH/HR) =   .48
 AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .85
 TOTAL AREA(ACRES) =   297.70       PEAK FLOW RATE(CFS) =  621.07
 TC(MIN) =  21.00

****************************************************************************
 FLOW PROCESS FROM NODE     8.03 TO NODE     8.04 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.794
 SOIL CLASSIFICATION IS "A"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .8245
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =    .85
 SUBAREA AREA(ACRES) =   21.00      SUBAREA RUNOFF(CFS) =   37.22
 EFFECTIVE AREA(ACRES) =   318.70   AREA-AVERAGED Fm(INCH/HR) =   .50
 AREA-AVERAGED Fp(INCH/HR) =   .59  AREA-AVERAGED Ap =   .85
 TOTAL AREA(ACRES) =   318.70       PEAK FLOW RATE(CFS) =  658.30
 TC(MIN) =  21.00

****************************************************************************
 FLOW PROCESS FROM NODE     8.04 TO NODE     8.05 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4340.00
 DOWNSTREAM NODE ELEVATION =   4250.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2800.00
 CHANNEL SLOPE =    .0321
 CHANNEL FLOW THRU SUBAREA(CFS) =    658.30
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0321 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   8.71 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   5.35   TC(MIN.) =  26.36

****************************************************************************
 FLOW PROCESS FROM NODE     8.04 TO NODE     8.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.383
  SOIL CLASSIFICATION IS "A"
  PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .8245
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
  SUBAREA AREA(ACRES) =   55.10      SUBAREA RUNOFF(CFS) =   77.30
  EFFECTIVE AREA(ACRES) =  373.80   AREA-AVERAGED Fm(INCH/HR) =   .55
  AREA-AVERAGED Fp(INCH/HR) =   .64  AREA-AVERAGED Ap =   .85
  TOTAL AREA(ACRES) =  373.80       PEAK FLOW RATE(CFS) =  658.30
  TC(MIN) =  26.36

**************************************************************************
  FLOW PROCESS FROM NODE     8.05 TO NODE     8.05 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
==========================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =  26.36
  RAINFALL INTENSITY(INCH/HR) =   2.38
  AREA-AVERAGED Fm(INCH/HR) =   .55
  AREA-AVERAGED Fp(INCH/HR) =   .64
  AREA-AVERAGED Ap =   .85
  EFFECTIVE STREAM AREA(ACRES) =  373.80
  TOTAL STREAM AREA(ACRES) =  373.80
  PEAK FLOW RATE(CFS) AT CONFLUENCE =    658.30

**************************************************************************
  FLOW PROCESS FROM NODE     8.20 TO NODE     8.21 IS CODE = 2.1
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  DEVELOPMENT IS PUBLIC PARK
  TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
  UPSTREAM ELEVATION(FEET) =   4620.00
  DOWNSTREAM ELEVATION(FEET) =   4560.00
  ELEVATION DIFFERENCE(FEET) =     60.00
  TC(MIN.) =  .483*[( 1000.00** 3.00)/(    60.00)]** .20 =   13.437
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.819
  SOIL CLASSIFICATION IS "C"
  PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
  SUBAREA RUNOFF(CFS) =     30.09
  TOTAL AREA(ACRES) =     10.00   PEAK FLOW RATE(CFS) =     30.09

**************************************************************************
  FLOW PROCESS FROM NODE     8.21 TO NODE     8.22 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   4560.00
  DOWNSTREAM NODE ELEVATION =   4420.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  2650.00
  CHANNEL SLOPE =   .0528
  CHANNEL FLOW THRU SUBAREA(CFS) =     30.09
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0528 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   4.00 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  11.04   TC(MIN.) =  24.48

**************************************************************************
  FLOW PROCESS FROM NODE     8.21 TO NODE     8.22 IS CODE =   8
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.510
  SOIL CLASSIFICATION IS "C"
  PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .4760
  SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
  SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
  SUBAREA AREA(ACRES) =  110.20      SUBAREA RUNOFF(CFS) =  201.70
  EFFECTIVE AREA(ACRES) =  120.20   AREA-AVERAGED Fm(INCH/HR) =   .48
  AREA-AVERAGED Fp(INCH/HR) =   .56  AREA-AVERAGED Ap =   .85
  TOTAL AREA(ACRES) =  120.20       PEAK FLOW RATE(CFS) =  220.00
  TC(MIN) =  24.48

**************************************************************************
  FLOW PROCESS FROM NODE     8.22 TO NODE     8.05 IS CODE = 5.3
--------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==========================================================================
  UPSTREAM NODE ELEVATION =   4420.00
  DOWNSTREAM NODE ELEVATION =   4250.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  4500.00
  CHANNEL SLOPE =   .0378
  CHANNEL FLOW THRU SUBAREA(CFS) =    220.00
  SLOPE ADJUSTMENT CURVE USED:
  EFFECTIVE SLOPE = .0378 (PER LACFCD HYDROLOGY MANUAL)
  FLOW VELOCITY(FEET/SEC) =   6.56 (PER LACFCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =  11.43   TC(MIN.) =  35.92
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     8.22 TO NODE     8.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  1.919
 SOIL CLASSIFICATION IS "A"
 PUBLIC PARK SUBAREA LOSS RATE, Fm(INCH/HR) =  .8245
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .85
 SUBAREA AREA(ACRES) =  113.80     SUBAREA RUNOFF(CFS) =  112.11
 EFFECTIVE AREA(ACRES) =   234.00   AREA-AVERAGED Fm(INCH/HR) =   .65
 AREA-AVERAGED Fp(INCH/HR) =   .76  AREA-AVERAGED Ap =   .85
 TOTAL AREA(ACRES) =   234.00       PEAK FLOW RATE(CFS) =  268.23
 TC(MIN) =  35.92

****************************************************************************
 FLOW PROCESS FROM NODE     8.05 TO NODE     8.05 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =  35.92
 RAINFALL INTENSITY(INCH/HR) =   1.92
 AREA-AVERAGED Fm(INCH/HR) =   .65
 AREA-AVERAGED Fp(INCH/HR) =   .76
 AREA-AVERAGED Ap =   .85
 EFFECTIVE STREAM AREA(ACRES) =  234.00
 TOTAL STREAM AREA(ACRES) =  234.00
 PEAK FLOW RATE(CFS) AT CONFLUENCE =    268.23

****************************************************************************
 FLOW PROCESS FROM NODE     8.60 TO NODE     8.61 IS CODE = 2.1
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
 NATURAL POOR COVER
 TC = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]** .20
 INITIAL SUBAREA FLOW-LENGTH(FEET) =  1000.00
 UPSTREAM ELEVATION(FEET) =   4780.00
 DOWNSTREAM ELEVATION(FEET) =   4600.00
 ELEVATION DIFFERENCE(FEET) =    180.00
 TC(MIN.) =  .525*[( 1000.00** 3.00)/(   180.00)]** .20 =   11.725
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.202
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA RUNOFF(CFS) =     18.10
 TOTAL AREA(ACRES) =      5.00   PEAK FLOW RATE(CFS) =     18.10

****************************************************************************
 FLOW PROCESS FROM NODE     8.61 TO NODE     8.62 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4600.00
 DOWNSTREAM NODE ELEVATION =   4420.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2700.00
 CHANNEL SLOPE =   .0667
 CHANNEL FLOW THRU SUBAREA(CFS) =     18.10
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0667 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   3.79 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =  11.87   TC(MIN.) =  23.59

****************************************************************************
 FLOW PROCESS FROM NODE     8.61 TO NODE     8.62 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.576
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   26.60     SUBAREA RUNOFF(CFS) =   57.35
 EFFECTIVE AREA(ACRES) =   31.60   AREA-AVERAGED Fm(INCH/HR) =   .18
 AREA-AVERAGED Fp(INCH/HR) =   .18  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =    31.60      PEAK FLOW RATE(CFS) =   68.13
 TC(MIN) =  23.59

****************************************************************************
 FLOW PROCESS FROM NODE     8.62 TO NODE     8.05 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =   4420.00
 DOWNSTREAM NODE ELEVATION =   4250.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  3000.00
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 CHANNEL SLOPE =   .0567
 CHANNEL FLOW THRU SUBAREA(CFS) =     68.13
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0567 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   5.44 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   9.20   TC(MIN.) =  32.79

****************************************************************************
 FLOW PROCESS FROM NODE     8.62 TO NODE     8.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.046
 SOIL CLASSIFICATION IS "C"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .1800
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .18
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =   39.00      SUBAREA RUNOFF(CFS) =   65.48
 EFFECTIVE AREA(ACRES) =   70.60   AREA-AVERAGED Fm(INCH/HR) =   .18
 AREA-AVERAGED Fp(INCH/HR) =   .18  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   70.60       PEAK FLOW RATE(CFS) =  118.54
 TC(MIN) =  32.79

****************************************************************************
 FLOW PROCESS FROM NODE     8.62 TO NODE     8.05 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.046
 SOIL CLASSIFICATION IS "A"
 NATURAL POOR COVER "BARREN" SUBAREA LOSS RATE, Fm(INCH/HR) =  .4100
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .41
 SUBAREA PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =    5.00      SUBAREA RUNOFF(CFS) =    7.36
 EFFECTIVE AREA(ACRES) =   75.60   AREA-AVERAGED Fm(INCH/HR) =   .20
 AREA-AVERAGED Fp(INCH/HR) =   .20  AREA-AVERAGED Ap =  1.00
 TOTAL AREA(ACRES) =   75.60       PEAK FLOW RATE(CFS) =  125.90
 TC(MIN) =  32.79

****************************************************************************
 FLOW PROCESS FROM NODE     8.05 TO NODE     8.05 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
 TIME OF CONCENTRATION(MIN.) =  32.79
 RAINFALL INTENSITY(INCH/HR) =   2.05
 AREA-AVERAGED Fm(INCH/HR) =   .20
 AREA-AVERAGED Fp(INCH/HR) =   .20
 AREA-AVERAGED Ap =  1.00
 EFFECTIVE STREAM AREA(ACRES) =   75.60
 TOTAL STREAM AREA(ACRES) =   75.60
 PEAK FLOW RATE(CFS) AT CONFLUENCE =    125.90

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  3 STREAMS.

 ** PEAK FLOW RATE TABLE **
      Q       Tc     Intensity     Fp       Ap      Fm          Ae
    (CFS)   (MIN.)   (INCH/HR)  (INCH/HR)        (INCH/HR)   (ACRES)
1  1046.21   26.36      2.383       .62    .87       .54      606.29
2   877.40   35.92      1.919       .63    .87       .54      683.40
3   931.36   32.79      2.046       .62    .87       .54      663.00

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =  1046.21  Tc(MIN.) =   26.357
 EFFECTIVE AREA(ACRES) =   606.29  AREA-AVERAGED Fm(INCH/HR) =   .54
 AREA-AVERAGED Fp(INCH/HR) =   .62  AREA-AVERAGED Ap =   .87
 TOTAL AREA(ACRES) =   683.40

****************************************************************************
 FLOW PROCESS FROM NODE     8.05 TO NODE     8.06 IS CODE = 5.3
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL MOUNTAIN CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 UPSTREAM NODE ELEVATION =  4250.00
 DOWNSTREAM NODE ELEVATION =  4180.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  2700.00
 CHANNEL SLOPE =   .0259
 CHANNEL FLOW THRU SUBAREA(CFS) =  1046.21
 SLOPE ADJUSTMENT CURVE USED:
 EFFECTIVE SLOPE = .0259 (PER LACFCD HYDROLOGY MANUAL)
 FLOW VELOCITY(FEET/SEC) =   9.13 (PER LACFCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   4.93   TC(MIN.) =  31.28

****************************************************************************
 FLOW PROCESS FROM NODE     8.05 TO NODE     8.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.114
 SOIL CLASSIFICATION IS "C"
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 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .4480
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .56
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   37.60     SUBAREA RUNOFF(CFS) =   56.37
 EFFECTIVE AREA(ACRES) =   643.89   AREA-AVERAGED Fm(INCH/HR) =   .53
 AREA-AVERAGED Fp(INCH/HR) =   .62  AREA-AVERAGED Ap =   .86
 TOTAL AREA(ACRES) =   721.00      PEAK FLOW RATE(CFS) = 1046.21
 TC(MIN) =  31.28


****************************************************************************
 FLOW PROCESS FROM NODE     8.05 TO NODE     8.06 IS CODE =   8
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.114
 SOIL CLASSIFICATION IS "A"
 RESIDENTIAL-> 1 DWELLING/ACRE SUBAREA LOSS RATE, Fm(INCH/HR) =  .7760
 SUBAREA PERVIOUS LOSS RATE, Fp(INCH/HR) =   .97
 SUBAREA PERVIOUS AREA FRACTION, Ap =   .80
 SUBAREA AREA(ACRES) =   12.00     SUBAREA RUNOFF(CFS) =   14.45
 EFFECTIVE AREA(ACRES) =   655.89   AREA-AVERAGED Fm(INCH/HR) =   .54
 AREA-AVERAGED Fp(INCH/HR) =   .63  AREA-AVERAGED Ap =   .86
 TOTAL AREA(ACRES) =   733.00      PEAK FLOW RATE(CFS) = 1046.21
 TC(MIN) =  31.28
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =    733.00  TC(MIN.) =     31.28
 EFFECTIVE AREA(ACRES) =    655.89  AREA-AVERAGED Fm(INCH/HR)=   .54
 AREA-AVERAGED Fp(INCH/HR) =   .63  AREA-AVERAGED Ap =   .86
 PEAK FLOW RATE(CFS)    =   1046.21

 ** PEAK FLOW RATE TABLE **
        Q       Tc     Intensity     Fp       Ap       Fm          Ae
      (CFS)   (MIN.)   (INCH/HR)  (INCH/HR)        (INCH/HR)   (ACRES)
 1   1046.21   31.28      2.114       .63    .86       .54       655.89
 2    931.36   37.91      1.848       .62    .86       .54       712.60
 3    877.40   41.14      1.745       .63    .86       .54       733.00
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

LOSS AT NODE 1.05, WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.05

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.01	10.00	.00	91.00
1.02A	24.80	.00	86.00
1.02B	18.00	.00	91.00
1.21	17.45	.00	91.00
1.22A	106.50	.00	91.00
1.22B	10.10	.00	86.00
1.02C	80.80	.00	86.00
1.02D	28.46	.00	91.00
1.31	10.00	.00	91.00
1.32A	37.64	.00	86.00
1.32B	9.18	.00	91.00
1.02E	57.85	.00	86.00
1.03A	76.20	.00	86.00
1.03B	15.60	.00	91.00
1.04	118.45	.00	86.00
1.05	85.39	.00	86.00

LOSS AT NODE 1.05, WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.05

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.01	10.00	.00	91.00	98.20	.06
1.02A	24.80	.00	86.00	97.20	.11
1.02B	18.00	.00	91.00	98.20	.06
1.21	17.45	.00	91.00	98.20	.06
1.22A	106.50	.00	91.00	98.20	.06
1.22B	10.10	.00	86.00	97.20	.11
1.02C	80.80	.00	86.00	97.20	.11
1.02D	28.46	.00	91.00	98.20	.06
1.31	10.00	.00	91.00	98.20	.06
1.32A	37.64	.00	86.00	97.20	.11
1.32B	9.18	.00	91.00	98.20	.06
1.02E	57.85	.00	86.00	97.20	.11
1.03A	76.20	.00	86.00	97.20	.11
1.03B	15.60	.00	91.00	98.20	.06
1.04	118.45	.00	86.00	97.20	.11
1.05	85.39	.00	86.00	97.20	.11

LOSS AT NODE 1.05, WATERSHED 1, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	706.42
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.092
LOW LOSS FRACTION (Y BAR)	=	.062

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.07

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.01	10.00	.00	91.00
1.02A	24.80	.00	86.00
1.02B	18.00	.00	91.00
1.21	17.45	.00	91.00
1.22A	106.50	.00	91.00
1.22B	10.10	.00	86.00
1.02C	80.80	.00	86.00
1.02D	28.46	.00	91.00
1.31	10.00	.00	91.00
1.32A	37.64	.00	86.00
1.32B	9.18	.00	91.00
1.02E	57.85	.00	86.00
1.03A	76.20	.00	86.00
1.03B	15.60	.00	91.00
1.04	118.45	.00	86.00
1.05	85.39	.00	86.00
1.06A	22.95	.00	86.00
1.06B	60.60	.20	69.00
1.07	150.14	.20	69.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.07

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.01	10.00	.00	91.00	98.20	.06
1.02A	24.80	.00	86.00	97.20	.11
1.02B	18.00	.00	91.00	98.20	.06
1.21	17.45	.00	91.00	98.20	.06
1.22A	106.50	.00	91.00	98.20	.06
1.22B	10.10	.00	86.00	97.20	.11
1.02C	80.80	.00	86.00	97.20	.11
1.02D	28.46	.00	91.00	98.20	.06
1.31	10.00	.00	91.00	98.20	.06
1.32A	37.64	.00	86.00	97.20	.11
1.32B	9.18	.00	91.00	98.20	.06
1.02E	57.85	.00	86.00	97.20	.11
1.03A	76.20	.00	86.00	97.20	.11
1.03B	15.60	.00	91.00	98.20	.06
1.04	118.45	.00	86.00	97.20	.11
1.05	85.39	.00	86.00	97.20	.11
1.06A	22.95	.00	86.00	97.20	.11
1.06B	48.48	.00	69.00	86.20	.29
1.06B	12.12	1.00	98.00	98.00	.00
1.06B	60.60	.20			.23
1.07	120.11	.00	69.00	86.20	.29
1.07	30.03	1.00	98.00	98.00	.00
1.07	150.14	.20			.23

WATERSHED 1, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	940.11
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.123
LOW LOSS FRACTION (Y BAR)	=	.107

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.01	10.00	.00	91.00
1.02A	24.80	.00	86.00
1.02B	18.00	.00	91.00
1.21	17.45	.00	91.00
1.22A	106.50	.00	91.00
1.22B	10.10	.00	86.00
1.02C	80.80	.00	86.00
1.02D	28.46	.00	91.00
1.31	10.00	.00	91.00
1.32A	37.64	.00	86.00
1.32B	9.18	.00	91.00
1.02E	57.85	.00	86.00
1.03A	76.20	.00	86.00
1.03B	15.60	.00	91.00
1.04	118.45	.00	86.00
1.05	85.39	.00	86.00
1.06A	22.95	.00	86.00
1.06B	60.60	.20	69.00
1.07	150.14	.20	69.00
1.08A	4.60	.20	56.00
1.08B	151.50	.20	69.00
1.09A	114.97	.20	56.00
1.09B	4.40	.20	69.00
1.71	4.28	.00	86.00
1.72	22.10	.00	86.00
1.73A	46.80	.00	86.00
1.73B	16.60	.20	69.00
1.74A	214.80	.20	69.00
1.74B	16.30	.00	91.00
1.74C	15.90	.00	86.00
1.75A	23.60	.20	56.00
1.75B	194.00	.20	69.00
1.76A	165.30	.20	56.00
1.76B	257.10	.20	69.00
1.09C	146.00	.20	56.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.01	10.00	.00	91.00	98.20	.06
1.02A	24.80	.00	86.00	97.20	.11
1.02B	18.00	.00	91.00	98.20	.06
1.21	17.45	.00	91.00	98.20	.06
1.22A	106.50	.00	91.00	98.20	.06
1.22B	10.10	.00	86.00	97.20	.11
1.02C	80.80	.00	86.00	97.20	.11
1.02D	28.46	.00	91.00	98.20	.06
1.31	10.00	.00	91.00	98.20	.06
1.32A	37.64	.00	86.00	97.20	.11
1.32B	9.18	.00	91.00	98.20	.06
1.02E	57.85	.00	86.00	97.20	.11
1.03A	76.20	.00	86.00	97.20	.11
1.03B	15.60	.00	91.00	98.20	.06
1.04	118.45	.00	86.00	97.20	.11
1.05	85.39	.00	86.00	97.20	.11
1.06A	22.95	.00	86.00	97.20	.11
1.06B	48.48	.00	69.00	86.20	.29
1.06B	12.12	1.00	98.00	98.00	.00
1.06B	60.60	.20			.23
1.07	120.11	.00	69.00	86.20	.29
1.07	30.03	1.00	98.00	98.00	.00
1.07	150.14	.20			.23
1.08A	3.68	.00	56.00	75.80	.42
1.08A	.92	1.00	98.00	98.00	.00
1.08A	4.60	.20			.34
1.08B	121.20	.00	69.00	86.20	.29
1.08B	30.30	1.00	98.00	98.00	.00
1.08B	151.50	.20			.23
1.09A	91.98	.00	56.00	75.80	.42
1.09A	22.99	1.00	98.00	98.00	.00
1.09A	114.97	.20			.34
1.09B	3.52	.00	69.00	86.20	.29
1.09B	.88	1.00	98.00	98.00	.00
1.09B	4.40	.20			.23
1.71	4.28	.00	86.00	97.20	.11
1.72	22.10	.00	86.00	97.20	.11
1.73A	46.80	.00	86.00	97.20	.11
1.73B	13.28	.00	69.00	86.20	.29
1.73B	3.32	1.00	98.00	98.00	.00
1.73B	16.60	.20			.23

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.74A	171.84	.00	69.00	86.20	.29
1.74A	42.96	1.00	98.00	98.00	.00
1.74A	214.80	.20			.23
1.74B	16.30	.00	91.00	98.20	.06
1.74C	15.90	.00	86.00	97.20	.11
1.75A	18.88	.00	56.00	75.80	.42
1.75A	4.72	1.00	98.00	98.00	.00
1.75A	23.60	.20			.34
1.75B	155.20	.00	69.00	86.20	.29
1.75B	38.80	1.00	98.00	98.00	.00
1.75B	194.00	.20			.23
1.76A	132.24	.00	56.00	75.80	.42
1.76A	33.06	1.00	98.00	98.00	.00
1.76A	165.30	.20			.34
1.76B	205.68	.00	69.00	86.20	.29
1.76B	51.42	1.00	98.00	98.00	.00
1.76B	257.10	.20			.23
1.09C	116.80	.00	56.00	75.80	.42
1.09C	29.20	1.00	98.00	98.00	.00
1.09C	146.00	.20			.34

WATERSHED 1, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	2338.36
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.202
LOW LOSS FRACTION (Y BAR)	=	.221

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.12

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.01	10.00	.00	91.00
1.02A	24.80	.00	86.00
1.02B	18.00	.00	91.00
1.21	17.45	.00	91.00
1.22A	106.50	.00	91.00
1.22B	10.10	.00	86.00
1.02C	80.80	.00	86.00
1.02D	28.46	.00	91.00
1.31	10.00	.00	91.00
1.32A	37.64	.00	86.00
1.32B	9.18	.00	91.00
1.02E	57.85	.00	86.00
1.03A	76.20	.00	86.00
1.03B	15.60	.00	91.00
1.04	118.45	.00	86.00
1.05	85.39	.00	86.00
1.06A	22.95	.00	86.00
1.06B	60.60	.20	69.00
1.07	150.14	.20	69.00
1.08A	4.60	.20	56.00
1.08B	151.50	.20	69.00
1.09A	114.97	.20	56.00
1.09B	4.40	.20	69.00
1.71	4.28	.00	86.00
1.72	22.10	.00	86.00
1.73A	466.80	.00	86.00
1.73B	16.60	.20	69.00
1.74A	214.80	.20	69.00
1.74B	16.30	.00	91.00
1.74C	15.90	.00	86.00
1.75A	23.60	.20	56.00
1.75B	194.00	.20	69.00
1.76A	165.30	.20	56.00
1.76B	257.10	.20	69.00
1.09C	146.00	.20	56.00
1.10	194.67	.20	56.00
1.11	225.89	.20	56.00
1.12	310.37	.20	56.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.12

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.01	10.00	.00	91.00	98.20	.06
1.02A	24.80	.00	86.00	97.20	.11
1.02B	18.00	.00	91.00	98.20	.06
1.21	17.45	.00	91.00	98.20	.06
1.22A	106.50	.00	91.00	98.20	.06
1.22B	10.10	.00	86.00	97.20	.11
1.02C	80.80	.00	86.00	97.20	.11
1.02D	28.46	.00	91.00	98.20	.06
1.31	10.00	.00	91.00	98.20	.06
1.32A	37.64	.00	86.00	97.20	.11
1.32B	9.18	.00	91.00	98.20	.06
1.02E	57.85	.00	86.00	97.20	.11
1.03A	76.20	.00	86.00	97.20	.11
1.03B	15.60	.00	91.00	98.20	.06
1.04	118.45	.00	86.00	97.20	.11
1.05	85.39	.00	86.00	97.20	.11
1.06A	22.95	.00	86.00	97.20	.11
1.06B	48.48	.00	69.00	86.20	.29
1.06B	12.12	1.00	98.00	98.00	.00
1.06B	60.60	.20			.23
1.07	120.11	.00	69.00	86.20	.29
1.07	30.03	1.00	98.00	98.00	.00
1.07	150.14	.20			.23
1.08A	3.68	.00	56.00	75.80	.42
1.08A	.92	1.00	98.00	98.00	.00
1.08A	4.60	.20			.34
1.08B	121.20	.00	69.00	86.20	.29
1.08B	30.30	1.00	98.00	98.00	.00
1.08B	151.50	.20			.23
1.09A	91.98	.00	56.00	75.80	.42
1.09A	22.99	1.00	98.00	98.00	.00
1.09A	114.97	.20			.34
1.09B	3.52	.00	69.00	86.20	.29
1.09B	.88	1.00	98.00	98.00	.00
1.09B	4.40	.20			.23
1.71	4.28	.00	86.00	97.20	.11
1.72	22.10	.00	86.00	97.20	.11
1.73A	466.80	.00	86.00	97.20	.11
1.73B	13.28	.00	69.00	86.20	.29
1.73B	3.32	1.00	98.00	98.00	.00
1.73B	16.60	.20			.23

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.12

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.74A	171.84	.00	69.00	86.20	.29
1.74A	42.96	1.00	98.00	98.00	.00
1.74A	214.80	.20			.23
1.74B	16.30	.00	91.00	98.20	.06
1.74C	15.90	.00	86.00	97.20	.11
1.75A	18.88	.00	56.00	75.80	.42
1.75A	4.72	1.00	98.00	98.00	.00
1.75A	23.60	.20			.34
1.75B	155.20	.00	69.00	86.20	.29
1.75B	38.80	1.00	98.00	98.00	.00
1.75B	194.00	.20			.23
1.76A	132.24	.00	56.00	75.80	.42
1.76A	33.06	1.00	98.00	98.00	.00
1.76A	165.30	.20			.34
1.76B	205.68	.00	69.00	86.20	.29
1.76B	51.42	1.00	98.00	98.00	.00
1.76B	257.10	.20			.23
1.09C	116.80	.00	56.00	75.80	.42
1.09C	29.20	1.00	98.00	98.00	.00
1.09C	146.00	.20			.34
1.10	155.74	.00	56.00	75.80	.42
1.10	38.93	1.00	98.00	98.00	.00
1.10	194.67	.20			.34
1.11	180.71	.00	56.00	75.80	.42
1.11	45.18	1.00	98.00	98.00	.00
1.11	225.89	.20			.34
1.12	248.30	.00	56.00	75.80	.42
1.12	62.07	1.00	98.00	98.00	.00
1.12	310.37	.20			.34

WATERSHED 1, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	3489.29
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.218
LOW LOSS FRACTION (Y BAR)	=	.244

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.01	10.00	.00	91.00
1.02A	24.80	.00	86.00
1.02B	18.00	.00	91.00
1.21	17.45	.00	91.00
1.22A	106.50	.00	91.00
1.22B	10.10	.00	86.00
1.02C	80.80	.00	86.00
1.02D	28.46	.00	91.00
1.31	10.00	.00	91.00
1.32A	37.64	.00	86.00
1.32B	9.18	.00	91.00
1.02E	57.85	.00	86.00
1.03A	76.20	.00	86.00
1.03B	15.60	.00	91.00
1.04	118.45	.00	86.00
1.05	85.39	.00	86.00
1.06A	22.95	.00	86.00
1.06B	60.60	.20	69.00
1.07	150.14	.20	69.00
1.08A	4.60	.20	56.00
1.08B	151.50	.20	69.00
1.09A	114.97	.20	56.00
1.09B	4.40	.20	69.00
1.71	4.28	.00	86.00
1.72	22.10	.00	86.00
1.73A	466.80	.00	86.00
1.73B	16.60	.20	69.00
1.74A	214.80	.20	69.00
1.74B	16.30	.00	91.00
1.74C	15.90	.00	86.00
1.75A	23.60	.20	56.00
1.75B	194.00	.20	69.00
1.76A	165.30	.20	56.00
1.76B	257.10	.20	69.00
1.09C	146.00	.20	56.00
1.10	194.67	.20	56.00
1.11	225.89	.20	56.00
1.12	310.37	.20	56.00
1.13	225.89	.20	56.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.01	10.00	.00	91.00	98.20	.06
1.02A	24.80	.00	86.00	97.20	.11
1.02B	18.00	.00	91.00	98.20	.06
1.21	17.45	.00	91.00	98.20	.06
1.22A	106.50	.00	91.00	98.20	.06
1.22B	10.10	.00	86.00	97.20	.11
1.02C	80.80	.00	86.00	97.20	.11
1.02D	28.46	.00	91.00	98.20	.06
1.31	10.00	.00	91.00	98.20	.06
1.32A	37.64	.00	86.00	97.20	.11
1.32B	9.18	.00	91.00	98.20	.06
1.02E	57.85	.00	86.00	97.20	.11
1.03A	76.20	.00	86.00	97.20	.11
1.03B	15.60	.00	91.00	98.20	.06
1.04	118.45	.00	86.00	97.20	.11
1.05	85.39	.00	86.00	97.20	.11
1.06A	22.95	.00	86.00	97.20	.11
1.06B	48.48	.00	69.00	86.20	.29
1.06B	12.12	1.00	98.00	98.00	.00
1.06B	60.60	.20			.23
1.07	120.11	.00	69.00	86.20	.29
1.07	30.03	1.00	98.00	98.00	.00
1.07	150.14	.20			.23
1.08A	3.68	.00	56.00	75.80	.42
1.08A	.92	1.00	98.00	98.00	.00
1.08A	4.60	.20			.34
1.08B	121.20	.00	69.00	86.20	.29
1.08B	30.30	1.00	98.00	98.00	.00
1.08B	151.50	.20			.23
1.09A	91.98	.00	56.00	75.80	.42
1.09A	22.99	1.00	98.00	98.00	.00
1.09A	114.97	.20			.34
1.09B	3.52	.00	69.00	86.20	.29
1.09B	.88	1.00	98.00	98.00	.00
1.09B	4.40	.20			.23
1.71	4.28	.00	86.00	97.20	.11
1.72	22.10	.00	86.00	97.20	.11
1.73A	466.80	.00	86.00	97.20	.11
1.73B	13.28	.00	69.00	86.20	.29
1.73B	3.32	1.00	98.00	98.00	.00
1.73B	16.60	.20			.23

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.74A	171.84	.00	69.00	86.20	.29
1.74A	42.96	1.00	98.00	98.00	.00
1.74A	214.80	.20			.23
1.74B	16.30	.00	91.00	98.20	.06
1.74C	15.90	.00	86.00	97.20	.11
1.75A	18.88	.00	56.00	75.80	.42
1.75A	4.72	1.00	98.00	98.00	.00
1.75A	23.60	.20			.34
1.75B	155.20	.00	69.00	86.20	.29
1.75B	38.80	1.00	98.00	98.00	.00
1.75B	194.00	.20			.23
1.76A	132.24	.00	56.00	75.80	.42
1.76A	33.06	1.00	98.00	98.00	.00
1.76A	165.30	.20			.34
1.76B	205.68	.00	69.00	86.20	.29
1.76B	51.42	1.00	98.00	98.00	.00
1.76B	257.10	.20			.23
1.09C	116.80	.00	56.00	75.80	.42
1.09C	29.20	1.00	98.00	98.00	.00
1.09C	146.00	.20			.34
1.10	155.74	.00	56.00	75.80	.42
1.10	38.93	1.00	98.00	98.00	.00
1.10	194.67	.20			.34
1.11	180.71	.00	56.00	75.80	.42
1.11	45.18	1.00	98.00	98.00	.00
1.11	225.89	.20			.34
1.12	248.30	.00	56.00	75.80	.42
1.12	62.07	1.00	98.00	98.00	.00
1.12	310.37	.20			.34
1.13	180.71	.00	56.00	75.80	.42
1.13	45.18	1.00	98.00	98.00	.00
1.13	225.89	.20			.34

WATERSHED 1, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	3715.18
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.225
LOW LOSS FRACTION (Y BAR)	=	.255

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.01	10.00	.00	91.00
1.02A	24.80	.00	86.00
1.02B	18.00	.00	91.00
1.21	17.45	.00	91.00
1.22A	106.50	.00	91.00
1.22B	10.10	.00	86.00
1.02C	80.80	.00	86.00
1.02D	28.46	.00	91.00
1.31	10.00	.00	91.00
1.32A	37.64	.00	86.00
1.32B	9.18	.00	91.00
1.02E	57.85	.00	86.00
1.03A	76.20	.00	86.00
1.03B	15.60	.00	91.00
1.04	118.45	.00	86.00
1.05	85.39	.00	86.00
1.06A	22.95	.00	86.00
1.06B	60.60	.20	69.00
1.07	150.14	.20	69.00
1.08A	4.60	.20	56.00
1.08B	151.50	.20	69.00
1.09A	114.97	.20	56.00
1.09B	4.40	.20	69.00
1.71	4.28	.00	86.00
1.72	22.10	.00	86.00
1.73A	46.80	.00	86.00
1.73B	16.60	.20	69.00
1.74A	214.80	.20	69.00
1.74B	16.30	.00	91.00
1.74C	15.90	.00	86.00
1.75A	23.60	.20	56.00
1.75B	194.00	.20	69.00
1.76A	165.30	.20	56.00
1.76B	257.10	.20	69.00
1.09C	146.00	.20	56.00
1.10	194.67	.20	56.00
1.11	225.89	.20	56.00
1.12	310.37	.20	56.00
1.13	225.89	.20	56.00
1.14	78.05	.20	56.00
1.41	5.50	.00	91.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.42A	22.10	.00	86.00
1.42B	1.70	.00	91.00
1.43A	83.60	.00	86.00
1.43B	11.10	.00	91.00
1.44A	44.90	.00	86.00
1.44B	33.15	.00	91.00
1.45A	67.95	.00	86.00
1.45B	10.95	.00	91.00
1.81	9.80	.00	91.00
1.82A	33.90	.00	91.00
18.82B	6.43	.00	86.00
1.83	26.40	.00	91.00
1.91	12.85	.00	91.00
1.92	45.00	.00	91.00
1.83B	7.40	.00	91.00
1.84A	67.00	.00	91.00
121	9.18	.00	91.00
1.84B	68.80	.00	91.00
1.45C	126.70	.00	91.00
1.61	10.00	.00	86.00
1.62	106.92	.00	86.00
1.45D	65.19	.00	86.00
1.45E	2.76	.00	91.00
1.46A	47.75	.00	91.00
17.1	7.05	.00	91.00
17.2	75.30	.00	91.00
1.46B	107.40	.00	91.00
1.47A	15.60	.20	69.00
1.47B	101.00	.00	91.00
1.48A	22.95	.20	56.00
1.48B	122.10	.20	69.00
1.48C	47.75	.00	91.00
1.49A	125.00	.20	56.00
1.49B	17.95	.20	69.00
1.49C	15.90	.00	91.00
1.50	183.65	.00	91.00
1.51A	123.10	.20	56.00
10.1	10.00	.00	91.00
10.2	116.80	.00	91.00
10.3	158.00	.00	91.00
10.4A	81.70	.00	91.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
11.1	10.00	.00	91.00
11.2	40.60	.00	91.00
11.3	78.97	.00	91.00
10.4B	101.00	.00	91.00
10.5A	140.50	.00	91.00
12.1	6.90	.00	91.00
12.2	18.40	.00	91.00
12.3	40.40	.00	91.00
12.4	44.50	.00	91.00
10.5B	97.30	.00	91.00
10.6A	86.30	.00	91.00
16.1	7.10	.00	91.00
16.2	26.60	.00	91.00
16.3	44.10	.00	91.00
10.6B	58.30	.00	91.00
10.7A	14.70	.20	56.00
10.7B	34.90	.20	69.00
10.7C	176.30	.00	91.00
10.8A	83.56	.20	56.00
10.8B	74.40	.20	69.00
10.9A	140.90	.20	56.00
10.9B	70.30	.20	91.00
1.51B	68.80	.20	56.00
1.51C	68.80	.20	69.00
1.52A	262.60	.20	56.00
1.52B	77.10	.20	69.00
1.53A	314.00	.20	56.00
1.53B	10.80	.20	69.00
14.1	7.90	.00	91.00
14.2	42.24	.00	91.00
14.3	50.50	.00	91.00
14.4A	8.10	.00	86.00
14.4B	24.80	.00	91.00
15.1	4.60	.00	91.00
15.2	47.75	.00	91.00
15.3A	9.20	.00	86.00
15.3B	76.20	.00	91.00
14.4C	3.10	.00	86.00
14.4D	6.20	.00	91.00
14.5A	42.30	.00	86.00
14.5B	22.00	.00	91.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
14.6A	78.10	.00	86.00
14.6B	24.80	.00	91.00
14.6C	3.50	.20	56.00
14.7A	3.80	.00	86.00
14.7B	1.80	.20	69.00
14.7C	160.70	.20	56.00
14.8A	29.40	.20	56.00
18.1	8.87	.00	91.00
18.2	42.30	.00	91.00
18.3	66.00	.00	91.00
18.4A	75.30	.00	91.00
18.4B	11.30	.20	69.00
18.5A	167.10	.20	69.00
18.5B	29.40	.00	91.00
18.5C	14.70	.20	56.00
14.8B	14.05	.20	56.00
13.8A	31.20	.20	56.00
13.1	5.20	.00	91.00
13.2	26.60	.00	91.00
13.3	33.98	.00	91.00
13.4A	35.00	.00	86.00
13.4B	109.30	.00	91.00
13.5A	127.60	.00	86.00
13.5B	19.25	.00	91.00
13.6A	192.80	.00	91.00
13.6B	64.30	.00	86.00
13.7A	134.98	.20	56.00
13.7B	12.00	.00	86.00
13.7C	22.00	.00	91.00
13.8B	51.50	.20	56.00
13.9	127.70	.20	56.00
13.10A	88.20	.20	56.00
13.10B	28.50	.20	69.00
13.11	81.70	.20	69.00
13.12A	62.40	.20	56.00
13.12B	15.70	.20	69.00
131	4.20	.20	69.00
132	31.22	.20	69.00
133A	9.20	.20	69.00
133B	56.90	.20	56.00
134A	165.30	.20	69.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
134B	90.90	.20	56.00
135A	257.00	.20	69.00
135B	58.80	.20	56.00
13.12C	21.10	.20	69.00
13.12D	17.70	.20	56.00
1.53C	17.70	.20	56.00
1.14B	190.10	.20	56.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.01	10.00	.00	91.00	98.20	.06
1.02A	24.80	.00	86.00	97.20	.11
1.02B	18.00	.00	91.00	98.20	.06
1.21	17.45	.00	91.00	98.20	.06
1.22A	106.50	.00	91.00	98.20	.06
1.22B	10.10	.00	86.00	97.20	.11
1.02C	80.80	.00	86.00	97.20	.11
1.02D	28.46	.00	91.00	98.20	.06
1.31	10.00	.00	91.00	98.20	.06
1.32A	37.64	.00	86.00	97.20	.11
1.32B	9.18	.00	91.00	98.20	.06
1.02E	57.85	.00	86.00	97.20	.11
1.03A	76.20	.00	86.00	97.20	.11
1.03B	15.60	.00	91.00	98.20	.06
1.04	118.45	.00	86.00	97.20	.11
1.05	85.39	.00	86.00	97.20	.11
1.06A	22.95	.00	86.00	97.20	.11
1.06B	48.48	.00	69.00	86.20	.29
1.06B	12.12	1.00	98.00	98.00	.00
1.06B	60.60	.20			.23
1.07	120.11	.00	69.00	86.20	.29
1.07	30.03	1.00	98.00	98.00	.00
1.07	150.14	.20			.23
1.08A	3.68	.00	56.00	75.80	.42
1.08A	.92	1.00	98.00	98.00	.00
1.08A	4.60	.20			.34
1.08B	121.20	.00	69.00	86.20	.29
1.08B	30.30	1.00	98.00	98.00	.00
1.08B	151.50	.20			.23
1.09A	91.98	.00	56.00	75.80	.42
1.09A	22.99	1.00	98.00	98.00	.00
1.09A	114.97	.20			.34
1.09B	3.52	.00	69.00	86.20	.29
1.09B	.88	1.00	98.00	98.00	.00
1.09B	4.40	.20			.23
1.71	4.28	.00	86.00	97.20	.11
1.72	22.10	.00	86.00	97.20	.11
1.73A	46.80	.00	86.00	97.20	.11
1.73B	13.28	.00	69.00	86.20	.29
1.73B	3.32	1.00	98.00	98.00	.00
1.73B	16.60	.20			.23

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.74A	171.84	.00	69.00	86.20	.29
1.74A	42.96	1.00	98.00	98.00	.00
1.74A	214.80	.20			.23
1.74B	16.30	.00	91.00	98.20	.06
1.74C	15.90	.00	86.00	97.20	.11
1.75A	18.88	.00	56.00	75.80	.42
1.75A	4.72	1.00	98.00	98.00	.00
1.75A	23.60	.20			.34
1.75B	155.20	.00	69.00	86.20	.29
1.75B	38.80	1.00	98.00	98.00	.00
1.75B	194.00	.20			.23
1.76A	132.24	.00	56.00	75.80	.42
1.76A	33.06	1.00	98.00	98.00	.00
1.76A	165.30	.20			.34
1.76B	205.68	.00	69.00	86.20	.29
1.76B	51.42	1.00	98.00	98.00	.00
1.76B	257.10	.20			.23
1.09C	116.80	.00	56.00	75.80	.42
1.09C	29.20	1.00	98.00	98.00	.00
1.09C	146.00	.20			.34
1.10	155.74	.00	56.00	75.80	.42
1.10	38.93	1.00	98.00	98.00	.00
1.10	194.67	.20			.34
1.11	180.71	.00	56.00	75.80	.42
1.11	45.18	1.00	98.00	98.00	.00
1.11	225.89	.20			.34
1.12	248.30	.00	56.00	75.80	.42
1.12	62.07	1.00	98.00	98.00	.00
1.12	310.37	.20			.34
1.13	180.71	.00	56.00	75.80	.42
1.13	45.18	1.00	98.00	98.00	.00
1.13	225.89	.20			.34
1.14	62.44	.00	56.00	75.80	.42
1.14	15.61	1.00	98.00	98.00	.00
1.14	78.05	.20			.34
1.41	5.50	.00	91.00	98.20	.06
1.42A	22.10	.00	86.00	97.20	.11
1.42B	1.70	.00	91.00	98.20	.06
1.43A	83.60	.00	86.00	97.20	.11
1.43B	11.10	.00	91.00	98.20	.06
1.44A	44.90	.00	86.00	97.20	.11

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.44B	33.15	.00	91.00	98.20	.06
1.45A	67.95	.00	86.00	97.20	.11
1.45B	10.95	.00	91.00	98.20	.06
1.81	9.80	.00	91.00	98.20	.06
1.82A	33.90	.00	91.00	98.20	.06
18.82B	6.43	.00	86.00	97.20	.11
1.83	26.40	.00	91.00	98.20	.06
1.91	12.85	.00	91.00	98.20	.06
1.92	45.00	.00	91.00	98.20	.06
1.83B	7.40	.00	91.00	98.20	.06
1.84A	67.00	.00	91.00	98.20	.06
121	9.18	.00	91.00	98.20	.06
1.84B	68.80	.00	91.00	98.20	.06
1.45C	126.70	.00	91.00	98.20	.06
1.61	10.00	.00	86.00	97.20	.11
1.62	106.92	.00	86.00	97.20	.11
1.45D	65.19	.00	86.00	97.20	.11
1.45E	2.76	.00	91.00	98.20	.06
1.46A	47.75	.00	91.00	98.20	.06
17.1	7.05	.00	91.00	98.20	.06
17.2	75.30	.00	91.00	98.20	.06
1.46B	107.40	.00	91.00	98.20	.06
1.47A	12.48	.00	69.00	86.20	.29
1.47A	3.12	1.00	98.00	98.00	.00
1.47A	15.60	.20			.23
1.47B	101.00	.00	91.00	98.20	.06
1.48A	18.36	.00	56.00	75.80	.42
1.48A	4.59	1.00	98.00	98.00	.00
1.48A	22.95	.20			.34
1.48B	97.68	.00	69.00	86.20	.29
1.48B	24.42	1.00	98.00	98.00	.00
1.48B	122.10	.20			.23
1.48C	47.75	.00	91.00	98.20	.06
1.49A	100.00	.00	56.00	75.80	.42
1.49A	25.00	1.00	98.00	98.00	.00
1.49A	125.00	.20			.34
1.49B	14.36	.00	69.00	86.20	.29
1.49B	3.59	1.00	98.00	98.00	.00
1.49B	17.95	.20			.23
1.49C	15.90	.00	91.00	98.20	.06
1.50	183.65	.00	91.00	98.20	.06

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.51A	98.48	.00	56.00	75.80	.42
1.51A	24.62	1.00	98.00	98.00	.00
1.51A	123.10	.20			.34
10.1	10.00	.00	91.00	98.20	.06
10.2	116.80	.00	91.00	98.20	.06
10.3	158.00	.00	91.00	98.20	.06
10.4A	81.70	.00	91.00	98.20	.06
11.1	10.00	.00	91.00	98.20	.06
11.2	40.60	.00	91.00	98.20	.06
11.3	78.97	.00	91.00	98.20	.06
10.4B	101.00	.00	91.00	98.20	.06
10.5A	140.50	.00	91.00	98.20	.06
12.1	6.90	.00	91.00	98.20	.06
12.2	18.40	.00	91.00	98.20	.06
12.3	40.40	.00	91.00	98.20	.06
12.4	44.50	.00	91.00	98.20	.06
10.5B	97.30	.00	91.00	98.20	.06
10.6A	86.30	.00	91.00	98.20	.06
16.1	7.10	.00	91.00	98.20	.06
16.2	26.60	.00	91.00	98.20	.06
16.3	44.10	.00	91.00	98.20	.06
10.6B	58.30	.00	91.00	98.20	.06
10.7A	11.76	.00	56.00	75.80	.42
10.7A	2.94	1.00	98.00	98.00	.00
10.7A	14.70	.20			.34
10.7B	27.92	.00	69.00	86.20	.29
10.7B	6.98	1.00	98.00	98.00	.00
10.7B	34.90	.20			.23
10.7C	176.30	.00	91.00	98.20	.06
10.8A	66.85	.00	56.00	75.80	.42
10.8A	16.71	1.00	98.00	98.00	.00
10.8A	83.56	.20			.34
10.8B	59.52	.00	69.00	86.20	.29
10.8B	14.88	1.00	98.00	98.00	.00
10.8B	74.40	.20			.23
10.9A	112.72	.00	56.00	75.80	.42
10.9A	28.18	1.00	98.00	98.00	.00
10.9A	140.90	.20			.34
10.9B	56.24	.00	91.00	98.20	.06
10.9B	14.06	1.00	98.00	98.00	.00
10.9B	70.30	.20			.05

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.51B	55.04	.00	56.00	75.80	.42
1.51B	13.76	1.00	98.00	98.00	.00
1.51B	68.80	.20			.34
1.51C	55.04	.00	69.00	86.20	.29
1.51C	13.76	1.00	98.00	98.00	.00
1.51C	68.80	.20			.23
1.52A	210.08	.00	56.00	75.80	.42
1.52A	52.52	1.00	98.00	98.00	.00
1.52A	262.60	.20			.34
1.52B	61.68	.00	69.00	86.20	.29
1.52B	15.42	1.00	98.00	98.00	.00
1.52B	77.10	.20			.23
1.53A	251.20	.00	56.00	75.80	.42
1.53A	62.80	1.00	98.00	98.00	.00
1.53A	314.00	.20			.34
1.53B	8.64	.00	69.00	86.20	.29
1.53B	2.16	1.00	98.00	98.00	.00
1.53B	10.80	.20			.23
14.1	7.90	.00	91.00	98.20	.06
14.2	42.24	.00	91.00	98.20	.06
14.3	50.50	.00	91.00	98.20	.06
14.4A	8.10	.00	86.00	97.20	.11
14.4B	24.80	.00	91.00	98.20	.06
15.1	4.60	.00	91.00	98.20	.06
15.2	47.75	.00	91.00	98.20	.06
15.3A	9.20	.00	86.00	97.20	.11
15.3B	76.20	.00	91.00	98.20	.06
14.4C	3.10	.00	86.00	97.20	.11
14.4D	6.20	.00	91.00	98.20	.06
14.5A	42.30	.00	86.00	97.20	.11
14.5B	22.00	.00	91.00	98.20	.06
14.6A	78.10	.00	86.00	97.20	.11
14.6B	24.80	.00	91.00	98.20	.06
14.6C	2.80	.00	56.00	75.80	.42
14.6C	.70	1.00	98.00	98.00	.00
14.6C	3.50	.20			.34
14.7A	3.80	.00	86.00	97.20	.11
14.7B	1.44	.00	69.00	86.20	.29
14.7B	.36	1.00	98.00	98.00	.00
14.7B	1.80	.20			.23
14.7C	128.56	.00	56.00	75.80	.42

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
14.7C	32.14	1.00	98.00	98.00	.00
14.7C	160.70	.20			.34
14.8A	23.52	.00	56.00	75.80	.42
14.8A	5.88	1.00	98.00	98.00	.00
14.8A	29.40	.20			.34
18.1	8.87	.00	91.00	98.20	.06
18.2	42.30	.00	91.00	98.20	.06
18.3	66.00	.00	91.00	98.20	.06
18.4A	75.30	.00	91.00	98.20	.06
18.4B	9.04	.00	69.00	86.20	.29
18.4B	2.26	1.00	98.00	98.00	.00
18.4B	11.30	.20			.23
18.5A	133.68	.00	69.00	86.20	.29
18.5A	33.42	1.00	98.00	98.00	.00
18.5A	167.10	.20			.23
18.5B	29.40	.00	91.00	98.20	.06
18.5C	11.76	.00	56.00	75.80	.42
18.5C	2.94	1.00	98.00	98.00	.00
18.5C	14.70	.20			.34
14.8B	11.24	.00	56.00	75.80	.42
14.8B	2.81	1.00	98.00	98.00	.00
14.8B	14.05	.20			.34
13.8A	24.96	.00	56.00	75.80	.42
13.8A	6.24	1.00	98.00	98.00	.00
13.8A	31.20	.20			.34
13.1	5.20	.00	91.00	98.20	.06
13.2	26.60	.00	91.00	98.20	.06
13.3	33.98	.00	91.00	98.20	.06
13.4A	35.00	.00	86.00	97.20	.11
13.4B	109.30	.00	91.00	98.20	.06
13.5A	127.60	.00	86.00	97.20	.11
13.5B	19.25	.00	91.00	98.20	.06
13.6A	192.80	.00	91.00	98.20	.06
13.6B	64.30	.00	86.00	97.20	.11
13.7A	107.98	.00	56.00	75.80	.42
13.7A	27.00	1.00	98.00	98.00	.00
13.7A	134.98	.20			.34
13.7B	12.00	.00	86.00	97.20	.11
13.7C	22.00	.00	91.00	98.20	.06
13.8B	41.20	.00	56.00	75.80	.42
13.8B	10.30	1.00	98.00	98.00	.00
13.8B	51.50	.20			.34

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
13.9	102.16	.00	56.00	75.80	.42
13.9	25.54	1.00	98.00	98.00	.00
13.9	127.70	.20			.34
13.10A	70.56	.00	56.00	75.80	.42
13.10A	17.64	1.00	98.00	98.00	.00
13.10A	88.20	.20			.34
13.10B	22.80	.00	69.00	86.20	.29
13.10B	5.70	1.00	98.00	98.00	.00
13.10B	28.50	.20			.23
13.11	65.36	.00	69.00	86.20	.29
13.11	16.34	1.00	98.00	98.00	.00
13.11	81.70	.20			.23
13.12A	49.92	.00	56.00	75.80	.42
13.12A	12.48	1.00	98.00	98.00	.00
13.12A	62.40	.20			.34
13.12B	12.56	.00	69.00	86.20	.29
13.12B	3.14	1.00	98.00	98.00	.00
13.12B	15.70	.20			.23
131	3.36	.00	69.00	86.20	.29
131	.84	1.00	98.00	98.00	.00
131	4.20	.20			.23
132	24.98	.00	69.00	86.20	.29
132	6.24	1.00	98.00	98.00	.00
132	31.22	.20			.23
133A	7.36	.00	69.00	86.20	.29
133A	1.84	1.00	98.00	98.00	.00
133A	9.20	.20			.23
133B	45.52	.00	56.00	75.80	.42
133B	11.38	1.00	98.00	98.00	.00
133B	56.90	.20			.34
134A	132.24	.00	69.00	86.20	.29
134A	33.06	1.00	98.00	98.00	.00
134A	165.30	.20			.23
134B	72.72	.00	56.00	75.80	.42
134B	18.18	1.00	98.00	98.00	.00
134B	90.90	.20			.34
135A	205.60	.00	69.00	86.20	.29
135A	51.40	1.00	98.00	98.00	.00
135A	257.00	.20			.23
135B	47.04	.00	56.00	75.80	.42
135B	11.76	1.00	98.00	98.00	.00
135B	58.80	.20			.34

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.14

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
13.12C	16.88	.00	69.00	86.20	.29
13.12C	4.22	1.00	98.00	98.00	.00
13.12C	21.10	.20			.23
13.12D	14.16	.00	56.00	75.80	.42
13.12D	3.54	1.00	98.00	98.00	.00
13.12D	17.70	.20			.34
1.53C	14.16	.00	56.00	75.80	.42
1.53C	3.54	1.00	98.00	98.00	.00
1.53C	17.70	.20			.34
1.14B	152.08	.00	56.00	75.80	.42
1.14B	38.02	1.00	98.00	98.00	.00
1.14B	190.10	.20			.34

WATERSHED 1, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	11095.67
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.195
LOW LOSS FRACTION (Y BAR)	=	.220

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.01	10.00	.00	91.00
1.02A	24.80	.00	86.00
1.02B	18.00	.00	91.00
1.21	17.45	.00	91.00
1.22A	106.50	.00	91.00
1.22B	10.10	.00	86.00
1.02C	80.80	.00	86.00
1.02D	28.46	.00	91.00
1.31	10.00	.00	91.00
1.32A	37.64	.00	86.00
1.32B	9.18	.00	91.00
1.02E	57.85	.00	86.00
1.03A	76.20	.00	86.00
1.03B	15.60	.00	91.00
1.04	118.45	.00	86.00
1.05	85.39	.00	86.00
1.06A	22.95	.00	86.00
1.06B	60.60	.20	69.00
1.07	150.14	.20	69.00
1.08A	4.60	.20	56.00
1.08B	151.50	.20	69.00
1.09A	114.97	.20	56.00
1.09B	4.40	.20	69.00
1.71	4.28	.00	86.00
1.72	22.10	.00	86.00
1.73A	46.80	.00	86.00
1.73B	16.60	.20	69.00
1.74A	214.80	.20	69.00
1.74B	16.30	.00	91.00
1.74C	15.90	.00	86.00
1.75A	23.60	.20	56.00
1.75B	194.00	.20	69.00
1.76A	165.30	.20	56.00
1.76B	257.10	.20	69.00
1.09C	146.00	.20	56.00
1.10	194.67	.20	56.00
1.11	225.89	.20	56.00
1.12	310.37	.20	56.00
1.13	225.89	.20	56.00
1.14	78.05	.20	56.00
1.41	5.50	.00	91.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.42A	22.10	.00	86.00
1.42B	1.70	.00	91.00
1.43A	83.60	.00	86.00
1.43B	11.10	.00	91.00
1.44A	44.90	.00	86.00
1.44B	33.15	.00	91.00
1.45A	67.95	.00	86.00
1.45B	10.95	.00	91.00
1.81	9.80	.00	91.00
1.82A	33.90	.00	91.00
18.82B	6.43	.00	86.00
1.83	26.40	.00	91.00
1.91	12.85	.00	91.00
1.92	45.00	.00	91.00
1.83B	7.40	.00	91.00
1.84A	67.00	.00	91.00
121	9.18	.00	91.00
1.84B	68.80	.00	91.00
1.45C	126.70	.00	91.00
1.61	10.00	.00	86.00
1.62	106.92	.00	86.00
1.45D	65.19	.00	86.00
1.45E	2.76	.00	91.00
1.46A	47.75	.00	91.00
17.1	7.05	.00	91.00
17.2	75.30	.00	91.00
1.46B	107.40	.00	91.00
1.47A	15.60	.20	69.00
1.47B	101.00	.00	91.00
1.48A	22.95	.20	56.00
1.48B	122.10	.20	69.00
1.48C	47.75	.00	91.00
1.49A	125.00	.20	56.00
1.49B	17.95	.20	69.00
1.49C	15.90	.00	91.00
1.50	183.65	.00	91.00
1.51A	123.10	.20	56.00
10.1	10.00	.00	91.00
10.2	116.80	.00	91.00
10.3	158.00	.00	91.00
10.4A	81.70	.00	91.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
11.1	10.00	.00	91.00
11.2	40.60	.00	91.00
11.3	78.97	.00	91.00
10.4B	101.00	.00	91.00
10.5A	140.50	.00	91.00
12.1	6.90	.00	91.00
12.2	18.40	.00	91.00
12.3	40.40	.00	91.00
12.4	44.50	.00	91.00
10.5B	97.30	.00	91.00
10.6A	86.30	.00	91.00
16.1	7.10	.00	91.00
16.2	26.60	.00	91.00
16.3	44.10	.00	91.00
10.6B	58.30	.00	91.00
10.7A	14.70	.20	56.00
10.7B	34.90	.20	69.00
10.7C	176.30	.00	91.00
10.8A	83.56	.20	56.00
10.8B	74.40	.20	69.00
10.9A	140.90	.20	56.00
10.9B	70.30	.20	91.00
1.51B	68.80	.20	56.00
1.51C	68.80	.20	69.00
1.52A	262.60	.20	56.00
1.52B	77.10	.20	69.00
1.53A	314.00	.20	56.00
1.53B	10.80	.20	69.00
14.1	7.90	.00	91.00
14.2	42.24	.00	91.00
14.3	50.50	.00	91.00
14.4A	8.10	.00	86.00
14.4B	24.80	.00	91.00
15.1	4.60	.00	91.00
15.2	47.75	.00	91.00
15.3A	9.20	.00	86.00
15.3B	76.20	.00	91.00
14.4C	3.10	.00	86.00
14.4D	6.20	.00	91.00
14.5A	42.30	.00	86.00
14.5B	22.00	.00	91.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
14.6A	78.10	.00	86.00
14.6B	24.80	.00	91.00
14.6C	3.50	.20	56.00
14.7A	3.80	.00	86.00
14.7B	1.80	.20	69.00
14.7C	160.70	.20	56.00
14.8A	29.40	.20	56.00
18.1	8.87	.00	91.00
18.2	42.30	.00	91.00
18.3	66.00	.00	91.00
18.4A	75.30	.00	91.00
18.4B	11.30	.20	69.00
18.5A	167.10	.20	69.00
18.5B	29.40	.00	91.00
18.5C	14.70	.20	56.00
14.8B	14.05	.20	56.00
13.8A	31.20	.20	56.00
13.1	5.20	.00	91.00
13.2	26.60	.00	91.00
13.3	33.98	.00	91.00
13.4A	35.00	.00	86.00
13.4B	109.30	.00	91.00
13.5A	127.60	.00	86.00
13.5B	19.25	.00	91.00
13.6A	192.80	.00	91.00
13.6B	64.30	.00	86.00
13.7A	134.98	.20	56.00
13.7B	12.00	.00	86.00
13.7C	22.00	.00	91.00
13.8B	51.50	.20	56.00
13.9	127.70	.20	56.00
13.10A	88.20	.20	56.00
13.10B	28.50	.20	69.00
13.11	81.70	.20	69.00
13.12A	62.40	.20	56.00
13.12B	15.70	.20	69.00
131	4.20	.20	69.00
132	31.22	.20	69.00
133A	9.20	.20	69.00
133B	56.90	.20	56.00
134A	165.30	.20	69.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
134B	90.90	.20	56.00
135A	257.00	.20	69.00
135B	58.80	.20	56.00
13.12C	21.10	.20	69.00
13.12D	17.70	.20	56.00
1.53C	17.70	.20	56.00
1.14B	190.10	.20	56.00
1.15	417.81	.20	56.00
1.16A	73.46	.20	56.00
1.16B	72.54	.20	69.00
19.1A	2.40	.20	56.00
19.1B	6.40	.20	69.00
19.2	13.80	.20	56.00
19.3A	80.80	.20	56.00
19.3B	11.00	.20	69.00
19.4	218.50	.20	56.00
19.5	476.60	.20	56.00
19.6	238.75	.20	56.00
19.7	116.60	.20	56.00
19.8A	733.70	.20	56.00
19.8B	20.80	.20	69.00
1.16C	313.10	.20	56.00
1.16D	275.50	.20	69.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.01	10.00	.00	91.00	98.20	.06
1.02A	24.80	.00	86.00	97.20	.11
1.02B	18.00	.00	91.00	98.20	.06
1.21	17.45	.00	91.00	98.20	.06
1.22A	106.50	.00	91.00	98.20	.06
1.22B	10.10	.00	86.00	97.20	.11
1.02C	80.80	.00	86.00	97.20	.11
1.02D	28.46	.00	91.00	98.20	.06
1.31	10.00	.00	91.00	98.20	.06
1.32A	37.64	.00	86.00	97.20	.11
1.32B	9.18	.00	91.00	98.20	.06
1.02E	57.85	.00	86.00	97.20	.11
1.03A	76.20	.00	86.00	97.20	.11
1.03B	15.60	.00	91.00	98.20	.06
1.04	118.45	.00	86.00	97.20	.11
1.05	85.39	.00	86.00	97.20	.11
1.06A	22.95	.00	86.00	97.20	.11
1.06B	48.48	.00	69.00	86.20	.29
1.06B	12.12	1.00	98.00	98.00	.00
1.06B	60.60	.20			.23
1.07	120.11	.00	69.00	86.20	.29
1.07	30.03	1.00	98.00	98.00	.00
1.07	150.14	.20			.23
1.08A	3.68	.00	56.00	75.80	.42
1.08A	.92	1.00	98.00	98.00	.00
1.08A	4.60	.20			.34
1.08B	121.20	.00	69.00	86.20	.29
1.08B	30.30	1.00	98.00	98.00	.00
1.08B	151.50	.20			.23
1.09A	91.98	.00	56.00	75.80	.42
1.09A	22.99	1.00	98.00	98.00	.00
1.09A	114.97	.20			.34
1.09B	3.52	.00	69.00	86.20	.29
1.09B	.88	1.00	98.00	98.00	.00
1.09B	4.40	.20			.23
1.71	4.28	.00	86.00	97.20	.11
1.72	22.10	.00	86.00	97.20	.11
1.73A	46.80	.00	86.00	97.20	.11
1.73B	13.28	.00	69.00	86.20	.29
1.73B	3.32	1.00	98.00	98.00	.00
1.73B	16.60	.20			.23

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.74A	171.84	.00	69.00	86.20	.29
1.74A	42.96	1.00	98.00	98.00	.00
1.74A	214.80	.20			.23
1.74B	16.30	.00	91.00	98.20	.06
1.74C	15.90	.00	86.00	97.20	.11
1.75A	18.88	.00	56.00	75.80	.42
1.75A	4.72	1.00	98.00	98.00	.00
1.75A	23.60	.20			.34
1.75B	155.20	.00	69.00	86.20	.29
1.75B	38.80	1.00	98.00	98.00	.00
1.75B	194.00	.20			.23
1.76A	132.24	.00	56.00	75.80	.42
1.76A	33.06	1.00	98.00	98.00	.00
1.76A	165.30	.20			.34
1.76B	205.68	.00	69.00	86.20	.29
1.76B	51.42	1.00	98.00	98.00	.00
1.76B	257.10	.20			.23
1.09C	116.80	.00	56.00	75.80	.42
1.09C	29.20	1.00	98.00	98.00	.00
1.09C	146.00	.20			.34
1.10	155.74	.00	56.00	75.80	.42
1.10	38.93	1.00	98.00	98.00	.00
1.10	194.67	.20			.34
1.11	180.71	.00	56.00	75.80	.42
1.11	45.18	1.00	98.00	98.00	.00
1.11	225.89	.20			.34
1.12	248.30	.00	56.00	75.80	.42
1.12	62.07	1.00	98.00	98.00	.00
1.12	310.37	.20			.34
1.13	180.71	.00	56.00	75.80	.42
1.13	45.18	1.00	98.00	98.00	.00
1.13	225.89	.20			.34
1.14	62.44	.00	56.00	75.80	.42
1.14	15.61	1.00	98.00	98.00	.00
1.14	78.05	.20			.34
1.41	5.50	.00	91.00	98.20	.06
1.42A	22.10	.00	86.00	97.20	.11
1.42B	1.70	.00	91.00	98.20	.06
1.43A	83.60	.00	86.00	97.20	.11
1.43B	11.10	.00	91.00	98.20	.06
1.44A	44.90	.00	86.00	97.20	.11

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.44B	33.15	.00	91.00	98.20	.06
1.45A	67.95	.00	86.00	97.20	.11
1.45B	10.95	.00	91.00	98.20	.06
1.81	9.80	.00	91.00	98.20	.06
1.82A	33.90	.00	91.00	98.20	.06
18.82B	6.43	.00	86.00	97.20	.11
1.83	26.40	.00	91.00	98.20	.06
1.91	12.85	.00	91.00	98.20	.06
1.92	45.00	.00	91.00	98.20	.06
1.83B	7.40	.00	91.00	98.20	.06
1.84A	67.00	.00	91.00	98.20	.06
121	9.18	.00	91.00	98.20	.06
1.84B	68.80	.00	91.00	98.20	.06
1.45C	126.70	.00	91.00	98.20	.06
1.61	10.00	.00	86.00	97.20	.11
1.62	106.92	.00	86.00	97.20	.11
1.45D	65.19	.00	86.00	97.20	.11
1.45E	2.76	.00	91.00	98.20	.06
1.46A	47.75	.00	91.00	98.20	.06
17.1	7.05	.00	91.00	98.20	.06
17.2	75.30	.00	91.00	98.20	.06
1.46B	107.40	.00	91.00	98.20	.06
1.47A	12.48	.00	69.00	86.20	.29
1.47A	3.12	1.00	98.00	98.00	.00
1.47A	15.60	.20			.23
1.47B	101.00	.00	91.00	98.20	.06
1.48A	18.36	.00	56.00	75.80	.42
1.48A	4.59	1.00	98.00	98.00	.00
1.48A	22.95	.20			.34
1.48B	97.68	.00	69.00	86.20	.29
1.48B	24.42	1.00	98.00	98.00	.00
1.48B	122.10	.20			.23
1.48C	47.75	.00	91.00	98.20	.06
1.49A	100.00	.00	56.00	75.80	.42
1.49A	25.00	1.00	98.00	98.00	.00
1.49A	125.00	.20			.34
1.49B	14.36	.00	69.00	86.20	.29
1.49B	3.59	1.00	98.00	98.00	.00
1.49B	17.95	.20			.23
1.49C	15.90	.00	91.00	98.20	.06
1.50	183.65	.00	91.00	98.20	.06

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.51A	98.48	.00	56.00	75.80	.42
1.51A	24.62	1.00	98.00	98.00	.00
1.51A	123.10	.20			.34
10.1	10.00	.00	91.00	98.20	.06
10.2	116.80	.00	91.00	98.20	.06
10.3	158.00	.00	91.00	98.20	.06
10.4A	81.70	.00	91.00	98.20	.06
11.1	10.00	.00	91.00	98.20	.06
11.2	40.60	.00	91.00	98.20	.06
11.3	78.97	.00	91.00	98.20	.06
10.4B	101.00	.00	91.00	98.20	.06
10.5A	140.50	.00	91.00	98.20	.06
12.1	6.90	.00	91.00	98.20	.06
12.2	18.40	.00	91.00	98.20	.06
12.3	40.40	.00	91.00	98.20	.06
12.4	44.50	.00	91.00	98.20	.06
10.5B	97.30	.00	91.00	98.20	.06
10.6A	86.30	.00	91.00	98.20	.06
16.1	7.10	.00	91.00	98.20	.06
16.2	26.60	.00	91.00	98.20	.06
16.3	44.10	.00	91.00	98.20	.06
10.6B	58.30	.00	91.00	98.20	.06
10.7A	11.76	.00	56.00	75.80	.42
10.7A	2.94	1.00	98.00	98.00	.00
10.7A	14.70	.20			.34
10.7B	27.92	.00	69.00	86.20	.29
10.7B	6.98	1.00	98.00	98.00	.00
10.7B	34.90	.20			.23
10.7C	176.30	.00	91.00	98.20	.06
10.8A	66.85	.00	56.00	75.80	.42
10.8A	16.71	1.00	98.00	98.00	.00
10.8A	83.56	.20			.34
10.8B	59.52	.00	69.00	86.20	.29
10.8B	14.88	1.00	98.00	98.00	.00
10.8B	74.40	.20			.23
10.9A	112.72	.00	56.00	75.80	.42
10.9A	28.18	1.00	98.00	98.00	.00
10.9A	140.90	.20			.34
10.9B	56.24	.00	91.00	98.20	.06
10.9B	14.06	1.00	98.00	98.00	.00
10.9B	70.30	.20			.05

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.51B	55.04	.00	56.00	75.80	.42
1.51B	13.76	1.00	98.00	98.00	.00
1.51B	68.80	.20			.34
1.51C	55.04	.00	69.00	86.20	.29
1.51C	13.76	1.00	98.00	98.00	.00
1.51C	68.80	.20			.23
1.52A	210.08	.00	56.00	75.80	.42
1.52A	52.52	1.00	98.00	98.00	.00
1.52A	262.60	.20			.34
1.52B	61.68	.00	69.00	86.20	.29
1.52B	15.42	1.00	98.00	98.00	.00
1.52B	77.10	.20			.23
1.53A	251.20	.00	56.00	75.80	.42
1.53A	62.80	1.00	98.00	98.00	.00
1.53A	314.00	.20			.34
1.53B	8.64	.00	69.00	86.20	.29
1.53B	2.16	1.00	98.00	98.00	.00
1.53B	10.80	.20			.23
14.1	7.90	.00	91.00	98.20	.06
14.2	42.24	.00	91.00	98.20	.06
14.3	50.50	.00	91.00	98.20	.06
14.4A	8.10	.00	86.00	97.20	.11
14.4B	24.80	.00	91.00	98.20	.06
15.1	4.60	.00	91.00	98.20	.06
15.2	47.75	.00	91.00	98.20	.06
15.3A	9.20	.00	86.00	97.20	.11
15.3B	76.20	.00	91.00	98.20	.06
14.4C	3.10	.00	86.00	97.20	.11
14.4D	6.20	.00	91.00	98.20	.06
14.5A	42.30	.00	86.00	97.20	.11
14.5B	22.00	.00	91.00	98.20	.06
14.6A	78.10	.00	86.00	97.20	.11
14.6B	24.80	.00	91.00	98.20	.06
14.6C	2.80	.00	56.00	75.80	.42
14.6C	.70	1.00	98.00	98.00	.00
14.6C	3.50	.20			.34
14.7A	3.80	.00	86.00	97.20	.11
14.7B	1.44	.00	69.00	86.20	.29
14.7B	.36	1.00	98.00	98.00	.00
14.7B	1.80	.20			.23
14.7C	128.56	.00	56.00	75.80	.42

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
14.7C	32.14	1.00	98.00	98.00	.00
14.7C	160.70	.20			.34
14.8A	23.52	.00	56.00	75.80	.42
14.8A	5.88	1.00	98.00	98.00	.00
14.8A	29.40	.20			.34
18.1	8.87	.00	91.00	98.20	.06
18.2	42.30	.00	91.00	98.20	.06
18.3	66.00	.00	91.00	98.20	.06
18.4A	75.30	.00	91.00	98.20	.06
18.4B	9.04	.00	69.00	86.20	.29
18.4B	2.26	1.00	98.00	98.00	.00
18.4B	11.30	.20			.23
18.5A	133.68	.00	69.00	86.20	.29
18.5A	33.42	1.00	98.00	98.00	.00
18.5A	167.10	.20			.23
18.5B	29.40	.00	91.00	98.20	.06
18.5C	11.76	.00	56.00	75.80	.42
18.5C	2.94	1.00	98.00	98.00	.00
18.5C	14.70	.20			.34
14.8B	11.24	.00	56.00	75.80	.42
14.8B	2.81	1.00	98.00	98.00	.00
14.8B	14.05	.20			.34
13.8A	24.96	.00	56.00	75.80	.42
13.8A	6.24	1.00	98.00	98.00	.00
13.8A	31.20	.20			.34
13.1	5.20	.00	91.00	98.20	.06
13.2	26.60	.00	91.00	98.20	.06
13.3	33.98	.00	91.00	98.20	.06
13.4A	35.00	.00	86.00	97.20	.11
13.4B	109.30	.00	91.00	98.20	.06
13.5A	127.60	.00	86.00	97.20	.11
13.5B	19.25	.00	91.00	98.20	.06
13.6A	192.80	.00	91.00	98.20	.06
13.6B	64.30	.00	86.00	97.20	.11
13.7A	107.98	.00	56.00	75.80	.42
13.7A	27.00	1.00	98.00	98.00	.00
13.7A	134.98	.20			.34
13.7B	12.00	.00	86.00	97.20	.11
13.7C	22.00	.00	91.00	98.20	.06
13.8B	41.20	.00	56.00	75.80	.42
13.8B	10.30	1.00	98.00	98.00	.00
13.8B	51.50	.20			.34

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
13.9	102.16	.00	56.00	75.80	.42
13.9	25.54	1.00	98.00	98.00	.00
13.9	127.70	.20			.34
13.10A	70.56	.00	56.00	75.80	.42
13.10A	17.64	1.00	98.00	98.00	.00
13.10A	88.20	.20			.34
13.10B	22.80	.00	69.00	86.20	.29
13.10B	5.70	1.00	98.00	98.00	.00
13.10B	28.50	.20			.23
13.11	65.36	.00	69.00	86.20	.29
13.11	16.34	1.00	98.00	98.00	.00
13.11	81.70	.20			.23
13.12A	49.92	.00	56.00	75.80	.42
13.12A	12.48	1.00	98.00	98.00	.00
13.12A	62.40	.20			.34
13.12B	12.56	.00	69.00	86.20	.29
13.12B	3.14	1.00	98.00	98.00	.00
13.12B	15.70	.20			.23
131	3.36	.00	69.00	86.20	.29
131	.84	1.00	98.00	98.00	.00
131	4.20	.20			.23
132	24.98	.00	69.00	86.20	.29
132	6.24	1.00	98.00	98.00	.00
132	31.22	.20			.23
133A	7.36	.00	69.00	86.20	.29
133A	1.84	1.00	98.00	98.00	.00
133A	9.20	.20			.23
133B	45.52	.00	56.00	75.80	.42
133B	11.38	1.00	98.00	98.00	.00
133B	56.90	.20			.34
134A	132.24	.00	69.00	86.20	.29
134A	33.06	1.00	98.00	98.00	.00
134A	165.30	.20			.23
134B	72.72	.00	56.00	75.80	.42
134B	18.18	1.00	98.00	98.00	.00
134B	90.90	.20			.34
135A	205.60	.00	69.00	86.20	.29
135A	51.40	1.00	98.00	98.00	.00
135A	257.00	.20			.23
135B	47.04	.00	56.00	75.80	.42
135B	11.76	1.00	98.00	98.00	.00
135B	58.80	.20			.34

WATERSHED 1, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	14167.44
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.222
LOW LOSS FRACTION (Y BAR)	=	.259

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.01	10.00	.00	91.00
1.02A	24.80	.00	86.00
1.02B	18.00	.00	91.00
1.21	17.45	.00	91.00
1.22A	106.50	.00	91.00
1.22B	10.10	.00	86.00
1.02C	80.80	.00	86.00
1.02D	28.46	.00	91.00
1.31	10.00	.00	91.00
1.32A	37.64	.00	86.00
1.32B	9.18	.00	91.00
1.02E	57.85	.00	86.00
1.03A	76.20	.00	86.00
1.03B	15.60	.00	91.00
1.04	118.45	.00	86.00
1.05	85.39	.00	86.00
1.06A	22.95	.00	86.00
1.06B	60.60	.20	69.00
1.07	150.14	.20	69.00
1.08A	4.60	.20	56.00
1.08B	151.50	.20	69.00
1.09A	114.97	.20	56.00
1.09B	4.40	.20	69.00
1.71	4.28	.00	86.00
1.72	22.10	.00	86.00
1.73A	46.80	.00	86.00
1.73B	16.60	.20	69.00
1.74A	214.80	.20	69.00
1.74B	16.30	.00	91.00
1.74C	15.90	.00	86.00
1.75A	23.60	.20	56.00
1.75B	194.00	.20	69.00
1.76A	165.30	.20	56.00
1.76B	257.10	.20	69.00
1.09C	146.00	.20	56.00
1.10	194.67	.20	56.00
1.11	225.89	.20	56.00
1.12	310.37	.20	56.00
1.13	225.89	.20	56.00
1.14	78.05	.20	56.00
1.41	5.50	.00	91.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
1.42A	22.10	.00	86.00
1.42B	1.70	.00	91.00
1.43A	83.60	.00	86.00
1.43B	11.10	.00	91.00
1.44A	44.90	.00	86.00
1.44B	33.15	.00	91.00
1.45A	67.95	.00	86.00
1.45B	10.95	.00	91.00
1.81	9.80	.00	91.00
1.82A	33.90	.00	91.00
18.82B	6.43	.00	86.00
1.83	26.40	.00	91.00
1.91	12.85	.00	91.00
1.92	45.00	.00	91.00
1.83B	7.40	.00	91.00
1.84A	67.00	.00	91.00
121	9.18	.00	91.00
1.84B	68.80	.00	91.00
1.45C	126.70	.00	91.00
1.61	10.00	.00	86.00
1.62	106.92	.00	86.00
1.45D	65.19	.00	86.00
1.45E	2.76	.00	91.00
1.46A	47.75	.00	91.00
17.1	7.05	.00	91.00
17.2	75.30	.00	91.00
1.46B	107.40	.00	91.00
1.47A	15.60	.20	69.00
1.47B	101.00	.00	91.00
1.48A	22.95	.20	56.00
1.48B	122.10	.20	69.00
1.48C	47.75	.00	91.00
1.49A	125.00	.20	56.00
1.49B	17.95	.20	69.00
1.49C	15.90	.00	91.00
1.50	183.65	.00	91.00
1.51A	123.10	.20	56.00
10.1	10.00	.00	91.00
10.2	116.80	.00	91.00
10.3	158.00	.00	91.00
10.4A	81.70	.00	91.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
11.1	10.00	.00	91.00
11.2	40.60	.00	91.00
11.3	78.97	.00	91.00
10.4B	101.00	.00	91.00
10.5A	140.50	.00	91.00
12.1	6.90	.00	91.00
12.2	18.40	.00	91.00
12.3	40.40	.00	91.00
12.4	44.50	.00	91.00
10.5B	97.30	.00	91.00
10.6A	86.30	.00	91.00
16.1	7.10	.00	91.00
16.2	26.60	.00	91.00
16.3	44.10	.00	91.00
10.6B	58.30	.00	91.00
10.7A	14.70	.20	56.00
10.7B	34.90	.20	69.00
10.7C	176.30	.00	91.00
10.8A	83.56	.20	56.00
10.8B	74.40	.20	69.00
10.9A	140.90	.20	56.00
10.9B	70.30	.20	91.00
1.51B	68.80	.20	56.00
1.51C	68.80	.20	69.00
1.52A	262.60	.20	56.00
1.52B	77.10	.20	69.00
1.53A	314.00	.20	56.00
1.53B	10.80	.20	69.00
14.1	7.90	.00	91.00
14.2	42.24	.00	91.00
14.3	50.50	.00	91.00
14.4A	8.10	.00	86.00
14.4B	24.80	.00	91.00
15.1	4.60	.00	91.00
15.2	47.75	.00	91.00
15.3A	9.20	.00	86.00
15.3B	76.20	.00	91.00
14.4C	3.10	.00	86.00
14.4D	6.20	.00	91.00
14.5A	42.30	.00	86.00
14.5B	22.00	.00	91.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
14.6A	78.10	.00	86.00
14.6B	24.80	.00	91.00
14.6C	3.50	.20	56.00
14.7A	3.80	.00	86.00
14.7B	1.80	.20	69.00
14.7C	160.70	.20	56.00
14.8A	29.40	.20	56.00
18.1	8.87	.00	91.00
18.2	42.30	.00	91.00
18.3	66.00	.00	91.00
18.4A	75.30	.00	91.00
18.4B	11.30	.20	69.00
18.5A	167.10	.20	69.00
18.5B	29.40	.00	91.00
18.5C	14.70	.20	56.00
14.8B	14.05	.20	56.00
13.8A	31.20	.20	56.00
13.1	5.20	.00	91.00
13.2	26.60	.00	91.00
13.3	33.98	.00	91.00
13.4A	35.00	.00	86.00
13.4B	109.30	.00	91.00
13.5A	127.60	.00	86.00
13.5B	19.25	.00	91.00
13.6A	192.80	.00	91.00
13.6B	64.30	.00	86.00
13.7A	134.98	.20	56.00
13.7B	12.00	.00	86.00
13.7C	22.00	.00	91.00
13.8B	51.50	.20	56.00
13.9	127.70	.20	56.00
13.10A	88.20	.20	56.00
13.10B	28.50	.20	69.00
13.11	81.70	.20	69.00
13.12A	62.40	.20	56.00
13.12B	15.70	.20	69.00
131	4.20	.20	69.00
132	31.22	.20	69.00
133A	9.20	.20	69.00
133B	56.90	.20	56.00
134A	165.30	.20	69.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
134B	90.90	.20	56.00
135A	257.00	.20	69.00
135B	58.80	.20	56.00
13.12C	21.10	.20	69.00
13.12D	17.70	.20	56.00
1.53C	17.70	.20	56.00
1.14B	190.10	.20	56.00
1.15	417.81	.20	56.00
1.16A	73.46	.20	56.00
1.16B	72.54	.20	69.00
19.1A	2.40	.20	56.00
19.1B	6.40	.20	69.00
19.2	13.80	.20	56.00
19.3A	80.80	.20	56.00
19.3B	11.00	.20	69.00
19.4	218.50	.20	56.00
19.5	476.60	.20	56.00
19.6	238.75	.20	56.00
19.7	116.60	.20	56.00
19.8A	733.70	.20	56.00
19.8B	20.80	.20	69.00
1.16C	313.10	.20	56.00
1.16D	275.50	.20	69.00
117A	36.00	.90	69.00
117B	142.30	.30	56.00
117C	5.30	.90	69.00
117D	133.14	.30	56.00

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.01	10.00	.00	91.00	98.20	.06
1.02A	24.80	.00	86.00	97.20	.11
1.02B	18.00	.00	91.00	98.20	.06
1.21	17.45	.00	91.00	98.20	.06
1.22A	106.50	.00	91.00	98.20	.06
1.22B	10.10	.00	86.00	97.20	.11
1.02C	80.80	.00	86.00	97.20	.11
1.02D	28.46	.00	91.00	98.20	.06
1.31	10.00	.00	91.00	98.20	.06
1.32A	37.64	.00	86.00	97.20	.11
1.32B	9.18	.00	91.00	98.20	.06
1.02E	57.85	.00	86.00	97.20	.11
1.03A	76.20	.00	86.00	97.20	.11
1.03B	15.60	.00	91.00	98.20	.06
1.04	118.45	.00	86.00	97.20	.11
1.05	85.39	.00	86.00	97.20	.11
1.06A	22.95	.00	86.00	97.20	.11
1.06B	48.48	.00	69.00	86.20	.29
1.06B	12.12	1.00	98.00	98.00	.00
1.06B	60.60	.20			.23
1.07	120.11	.00	69.00	86.20	.29
1.07	30.03	1.00	98.00	98.00	.00
1.07	150.14	.20			.23
1.08A	3.68	.00	56.00	75.80	.42
1.08A	.92	1.00	98.00	98.00	.00
1.08A	4.60	.20			.34
1.08B	121.20	.00	69.00	86.20	.29
1.08B	30.30	1.00	98.00	98.00	.00
1.08B	151.50	.20			.23
1.09A	91.98	.00	56.00	75.80	.42
1.09A	22.99	1.00	98.00	98.00	.00
1.09A	114.97	.20			.34
1.09B	3.52	.00	69.00	86.20	.29
1.09B	.88	1.00	98.00	98.00	.00
1.09B	4.40	.20			.23
1.71	4.28	.00	86.00	97.20	.11
1.72	22.10	.00	86.00	97.20	.11
1.73A	46.80	.00	86.00	97.20	.11
1.73B	13.28	.00	69.00	86.20	.29
1.73B	3.32	1.00	98.00	98.00	.00
1.73B	16.60	.20			.23

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.74A	171.84	.00	69.00	86.20	.29
1.74A	42.96	1.00	98.00	98.00	.00
1.74A	214.80	.20			.23
1.74B	16.30	.00	91.00	98.20	.06
1.74C	15.90	.00	86.00	97.20	.11
1.75A	18.88	.00	56.00	75.80	.42
1.75A	4.72	1.00	98.00	98.00	.00
1.75A	23.60	.20			.34
1.75B	155.20	.00	69.00	86.20	.29
1.75B	38.80	1.00	98.00	98.00	.00
1.75B	194.00	.20			.23
1.76A	132.24	.00	56.00	75.80	.42
1.76A	33.06	1.00	98.00	98.00	.00
1.76A	165.30	.20			.34
1.76B	205.68	.00	69.00	86.20	.29
1.76B	51.42	1.00	98.00	98.00	.00
1.76B	257.10	.20			.23
1.09C	116.80	.00	56.00	75.80	.42
1.09C	29.20	1.00	98.00	98.00	.00
1.09C	146.00	.20			.34
1.10	155.74	.00	56.00	75.80	.42
1.10	38.93	1.00	98.00	98.00	.00
1.10	194.67	.20			.34
1.11	180.71	.00	56.00	75.80	.42
1.11	45.18	1.00	98.00	98.00	.00
1.11	225.89	.20			.34
1.12	248.30	.00	56.00	75.80	.42
1.12	62.07	1.00	98.00	98.00	.00
1.12	310.37	.20			.34
1.13	180.71	.00	56.00	75.80	.42
1.13	45.18	1.00	98.00	98.00	.00
1.13	225.89	.20			.34
1.14	62.44	.00	56.00	75.80	.42
1.14	15.61	1.00	98.00	98.00	.00
1.14	78.05	.20			.34
1.41	5.50	.00	91.00	98.20	.06
1.42A	22.10	.00	86.00	97.20	.11
1.42B	1.70	.00	91.00	98.20	.06
1.43A	83.60	.00	86.00	97.20	.11
1.43B	11.10	.00	91.00	98.20	.06
1.44A	44.90	.00	86.00	97.20	.11

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.44B	33.15	.00	91.00	98.20	.06
1.45A	67.95	.00	86.00	97.20	.11
1.45B	10.95	.00	91.00	98.20	.06
1.81	9.80	.00	91.00	98.20	.06
1.82A	33.90	.00	91.00	98.20	.06
18.82B	6.43	.00	86.00	97.20	.11
1.83	26.40	.00	91.00	98.20	.06
1.91	12.85	.00	91.00	98.20	.06
1.92	45.00	.00	91.00	98.20	.06
1.83B	7.40	.00	91.00	98.20	.06
1.84A	67.00	.00	91.00	98.20	.06
121	9.18	.00	91.00	98.20	.06
1.84B	68.80	.00	91.00	98.20	.06
1.45C	126.70	.00	91.00	98.20	.06
1.61	10.00	.00	86.00	97.20	.11
1.62	106.92	.00	86.00	97.20	.11
1.45D	65.19	.00	86.00	97.20	.11
1.45E	2.76	.00	91.00	98.20	.06
1.46A	47.75	.00	91.00	98.20	.06
17.1	7.05	.00	91.00	98.20	.06
17.2	75.30	.00	91.00	98.20	.06
1.46B	107.40	.00	91.00	98.20	.06
1.47A	12.48	.00	69.00	86.20	.29
1.47A	3.12	1.00	98.00	98.00	.00
1.47A	15.60	.20			.23
1.47B	101.00	.00	91.00	98.20	.06
1.48A	18.36	.00	56.00	75.80	.42
1.48A	4.59	1.00	98.00	98.00	.00
1.48A	22.95	.20			.34
1.48B	97.68	.00	69.00	86.20	.29
1.48B	24.42	1.00	98.00	98.00	.00
1.48B	122.10	.20			.23
1.48C	47.75	.00	91.00	98.20	.06
1.49A	100.00	.00	56.00	75.80	.42
1.49A	25.00	1.00	98.00	98.00	.00
1.49A	125.00	.20			.34
1.49B	14.36	.00	69.00	86.20	.29
1.49B	3.59	1.00	98.00	98.00	.00
1.49B	17.95	.20			.23
1.49C	15.90	.00	91.00	98.20	.06
1.50	183.65	.00	91.00	98.20	.06

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.51A	98.48	.00	56.00	75.80	.42
1.51A	24.62	1.00	98.00	98.00	.00
1.51A	123.10	.20			.34
10.1	10.00	.00	91.00	98.20	.06
10.2	116.80	.00	91.00	98.20	.06
10.3	158.00	.00	91.00	98.20	.06
10.4A	81.70	.00	91.00	98.20	.06
11.1	10.00	.00	91.00	98.20	.06
11.2	40.60	.00	91.00	98.20	.06
11.3	78.97	.00	91.00	98.20	.06
10.4B	101.00	.00	91.00	98.20	.06
10.5A	140.50	.00	91.00	98.20	.06
12.1	6.90	.00	91.00	98.20	.06
12.2	18.40	.00	91.00	98.20	.06
12.3	40.40	.00	91.00	98.20	.06
12.4	44.50	.00	91.00	98.20	.06
10.5B	97.30	.00	91.00	98.20	.06
10.6A	86.30	.00	91.00	98.20	.06
16.1	7.10	.00	91.00	98.20	.06
16.2	26.60	.00	91.00	98.20	.06
16.3	44.10	.00	91.00	98.20	.06
10.6B	58.30	.00	91.00	98.20	.06
10.7A	11.76	.00	56.00	75.80	.42
10.7A	2.94	1.00	98.00	98.00	.00
10.7A	14.70	.20			.34
10.7B	27.92	.00	69.00	86.20	.29
10.7B	6.98	1.00	98.00	98.00	.00
10.7B	34.90	.20			.23
10.7C	176.30	.00	91.00	98.20	.06
10.8A	66.85	.00	56.00	75.80	.42
10.8A	16.71	1.00	98.00	98.00	.00
10.8A	83.56	.20			.34
10.8B	59.52	.00	69.00	86.20	.29
10.8B	14.88	1.00	98.00	98.00	.00
10.8B	74.40	.20			.23
10.9A	112.72	.00	56.00	75.80	.42
10.9A	28.18	1.00	98.00	98.00	.00
10.9A	140.90	.20			.34
10.9B	56.24	.00	91.00	98.20	.06
10.9B	14.06	1.00	98.00	98.00	.00
10.9B	70.30	.20			.05

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
1.51B	55.04	.00	56.00	75.80	.42
1.51B	13.76	1.00	98.00	98.00	.00
1.51B	68.80	.20			.34
1.51C	55.04	.00	69.00	86.20	.29
1.51C	13.76	1.00	98.00	98.00	.00
1.51C	68.80	.20			.23
1.52A	210.08	.00	56.00	75.80	.42
1.52A	52.52	1.00	98.00	98.00	.00
1.52A	262.60	.20			.34
1.52B	61.68	.00	69.00	86.20	.29
1.52B	15.42	1.00	98.00	98.00	.00
1.52B	77.10	.20			.23
1.53A	251.20	.00	56.00	75.80	.42
1.53A	62.80	1.00	98.00	98.00	.00
1.53A	314.00	.20			.34
1.53B	8.64	.00	69.00	86.20	.29
1.53B	2.16	1.00	98.00	98.00	.00
1.53B	10.80	.20			.23
14.1	7.90	.00	91.00	98.20	.06
14.2	42.24	.00	91.00	98.20	.06
14.3	50.50	.00	91.00	98.20	.06
14.4A	8.10	.00	86.00	97.20	.11
14.4B	24.80	.00	91.00	98.20	.06
15.1	4.60	.00	91.00	98.20	.06
15.2	47.75	.00	91.00	98.20	.06
15.3A	9.20	.00	86.00	97.20	.11
15.3B	76.20	.00	91.00	98.20	.06
14.4C	3.10	.00	86.00	97.20	.11
14.4D	6.20	.00	91.00	98.20	.06
14.5A	42.30	.00	86.00	97.20	.11
14.5B	22.00	.00	91.00	98.20	.06
14.6A	78.10	.00	86.00	97.20	.11
14.6B	24.80	.00	91.00	98.20	.06
14.6C	2.80	.00	56.00	75.80	.42
14.6C	.70	1.00	98.00	98.00	.00
14.6C	3.50	.20			.34
14.7A	3.80	.00	86.00	97.20	.11
14.7B	1.44	.00	69.00	86.20	.29
14.7B	.36	1.00	98.00	98.00	.00
14.7B	1.80	.20			.23
14.7C	128.56	.00	56.00	75.80	.42

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
14.7C	32.14	1.00	98.00	98.00	.00
14.7C	160.70	.20			.34
14.8A	23.52	.00	56.00	75.80	.42
14.8A	5.88	1.00	98.00	98.00	.00
14.8A	29.40	.20			.34
18.1	8.87	.00	91.00	98.20	.06
18.2	42.30	.00	91.00	98.20	.06
18.3	66.00	.00	91.00	98.20	.06
18.4A	75.30	.00	91.00	98.20	.06
18.4B	9.04	.00	69.00	86.20	.29
18.4B	2.26	1.00	98.00	98.00	.00
18.4B	11.30	.20			.23
18.5A	133.68	.00	69.00	86.20	.29
18.5A	33.42	1.00	98.00	98.00	.00
18.5A	167.10	.20			.23
18.5B	29.40	.00	91.00	98.20	.06
18.5C	11.76	.00	56.00	75.80	.42
18.5C	2.94	1.00	98.00	98.00	.00
18.5C	14.70	.20			.34
14.8B	11.24	.00	56.00	75.80	.42
14.8B	2.81	1.00	98.00	98.00	.00
14.8B	14.05	.20			.34
13.8A	24.96	.00	56.00	75.80	.42
13.8A	6.24	1.00	98.00	98.00	.00
13.8A	31.20	.20			.34
13.1	5.20	.00	91.00	98.20	.06
13.2	26.60	.00	91.00	98.20	.06
13.3	33.98	.00	91.00	98.20	.06
13.4A	35.00	.00	86.00	97.20	.11
13.4B	109.30	.00	91.00	98.20	.06
13.5A	127.60	.00	86.00	97.20	.11
13.5B	19.25	.00	91.00	98.20	.06
13.6A	192.80	.00	91.00	98.20	.06
13.6B	64.30	.00	86.00	97.20	.11
13.7A	107.98	.00	56.00	75.80	.42
13.7A	27.00	1.00	98.00	98.00	.00
13.7A	134.98	.20			.34
13.7B	12.00	.00	86.00	97.20	.11
13.7C	22.00	.00	91.00	98.20	.06
13.8B	41.20	.00	56.00	75.80	.42
13.8B	10.30	1.00	98.00	98.00	.00
13.8B	51.50	.20			.34

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
13.9	102.16	.00	56.00	75.80	.42
13.9	25.54	1.00	98.00	98.00	.00
13.9	127.70	.20			.34
13.10A	70.56	.00	56.00	75.80	.42
13.10A	17.64	1.00	98.00	98.00	.00
13.10A	88.20	.20			.34
13.10B	22.80	.00	69.00	86.20	.29
13.10B	5.70	1.00	98.00	98.00	.00
13.10B	28.50	.20			.23
13.11	65.36	.00	69.00	86.20	.29
13.11	16.34	1.00	98.00	98.00	.00
13.11	81.70	.20			.23
13.12A	49.92	.00	56.00	75.80	.42
13.12A	12.48	1.00	98.00	98.00	.00
13.12A	62.40	.20			.34
13.12B	12.56	.00	69.00	86.20	.29
13.12B	3.14	1.00	98.00	98.00	.00
13.12B	15.70	.20			.23
131	3.36	.00	69.00	86.20	.29
131	.84	1.00	98.00	98.00	.00
131	4.20	.20			.23
132	24.98	.00	69.00	86.20	.29
132	6.24	1.00	98.00	98.00	.00
132	31.22	.20			.23
133A	7.36	.00	69.00	86.20	.29
133A	1.84	1.00	98.00	98.00	.00
133A	9.20	.20			.23
133B	45.52	.00	56.00	75.80	.42
133B	11.38	1.00	98.00	98.00	.00
133B	56.90	.20			.34
134A	132.24	.00	69.00	86.20	.29
134A	33.06	1.00	98.00	98.00	.00
134A	165.30	.20			.23
134B	72.72	.00	56.00	75.80	.42
134B	18.18	1.00	98.00	98.00	.00
134B	90.90	.20			.34
135A	205.60	.00	69.00	86.20	.29
135A	51.40	1.00	98.00	98.00	.00
135A	257.00	.20			.23
135B	47.04	.00	56.00	75.80	.42
135B	11.76	1.00	98.00	98.00	.00
135B	58.80	.20			.34

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
13.12C	16.88	.00	69.00	86.20	.29
13.12C	4.22	1.00	98.00	98.00	.00
13.12C	21.10	.20			.23
13.12D	14.16	.00	56.00	75.80	.42
13.12D	3.54	1.00	98.00	98.00	.00
13.12D	17.70	.20			.34
1.53C	14.16	.00	56.00	75.80	.42
1.53C	3.54	1.00	98.00	98.00	.00
1.53C	17.70	.20			.34
1.14B	152.08	.00	56.00	75.80	.42
1.14B	38.02	1.00	98.00	98.00	.00
1.14B	190.10	.20			.34
1.15	334.25	.00	56.00	75.80	.42
1.15	83.56	1.00	98.00	98.00	.00
1.15	417.81	.20			.34
1.16A	58.77	.00	56.00	75.80	.42
1.16A	14.69	1.00	98.00	98.00	.00
1.16A	73.46	.20			.34
1.16B	58.03	.00	69.00	86.20	.29
1.16B	14.51	1.00	98.00	98.00	.00
1.16B	72.54	.20			.23
19.1A	1.92	.00	56.00	75.80	.42
19.1A	.48	1.00	98.00	98.00	.00
19.1A	2.40	.20			.34
19.1B	5.12	.00	69.00	86.20	.29
19.1B	1.28	1.00	98.00	98.00	.00
19.1B	6.40	.20			.23
19.2	11.04	.00	56.00	75.80	.42
19.2	2.76	1.00	98.00	98.00	.00
19.2	13.80	.20			.34
19.3A	64.64	.00	56.00	75.80	.42
19.3A	16.16	1.00	98.00	98.00	.00
19.3A	80.80	.20			.34
19.3B	8.80	.00	69.00	86.20	.29
19.3B	2.20	1.00	98.00	98.00	.00
19.3B	11.00	.20			.23
19.4	174.80	.00	56.00	75.80	.42
19.4	43.70	1.00	98.00	98.00	.00
19.4	218.50	.20			.34
19.5	381.28	.00	56.00	75.80	.42
19.5	95.32	1.00	98.00	98.00	.00
19.5	476.60	.20			.34

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
19.6	191.00	.00	56.00	75.80	.42
19.6	47.75	1.00	98.00	98.00	.00
19.6	238.75	.20			.34
19.7	93.28	.00	56.00	75.80	.42
19.7	23.32	1.00	98.00	98.00	.00
19.7	116.60	.20			.34
19.8A	586.96	.00	56.00	75.80	.42
19.8A	146.74	1.00	98.00	98.00	.00
19.8A	733.70	.20			.34
19.8B	16.64	.00	69.00	86.20	.29
19.8B	4.16	1.00	98.00	98.00	.00
19.8B	20.80	.20			.23
1.16C	250.48	.00	56.00	75.80	.42
1.16C	62.62	1.00	98.00	98.00	.00
1.16C	313.10	.20			.34
1.16D	220.40	.00	69.00	86.20	.29
1.16D	55.10	1.00	98.00	98.00	.00
1.16D	275.50	.20			.23
117A	3.60	.00	69.00	86.20	.29
117A	32.40	1.00	98.00	98.00	.00
117A	36.00	.90			.03
117B	99.61	.00	56.00	75.80	.42
117B	42.69	1.00	98.00	98.00	.00
117B	142.30	.30			.29
117C	.53	.00	69.00	86.20	.29
117C	4.77	1.00	98.00	98.00	.00
117C	5.30	.90			.03
117D	93.20	.00	56.00	75.80	.42
117D	39.94	1.00	98.00	98.00	.00
117D	133.14	.30			.29

WATERSHED 1, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	14484.18
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.223
LOW LOSS FRACTION (Y BAR)	=	.261

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.07

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
201	5.20	.00	91.00
202	34.00	.00	91.00
203A	27.50	.00	91.00
203B	12.90	.00	78.00
204A	6.00	.00	91.00
204B	40.80	.00	78.00
205A	156.10	.00	78.00
205B	27.60	.20	32.00
205C	32.10	.00	91.00
206A	49.50	.00	78.00
206B	89.10	.20	32.00
206C	4.20	.00	91.00
207A	150.60	.20	32.00
207B	33.00	.20	69.00
221	4.30	.00	91.00
222A	44.80	.00	78.00
222B	2.00	.00	91.00
204	69.80	.00	78.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.07

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
201	5.20	.00	91.00	98.20	.06
202	34.00	.00	91.00	98.20	.06
203A	27.50	.00	91.00	98.20	.06
203B	12.90	.00	78.00	92.80	.18
204A	6.00	.00	91.00	98.20	.06
204B	40.80	.00	78.00	92.80	.18
205A	156.10	.00	78.00	92.80	.18
205B	22.08	.00	32.00	52.00	.74
205B	5.52	1.00	98.00	98.00	.00
205B	27.60	.20			.59
205C	32.10	.00	91.00	98.20	.06
206A	49.50	.00	78.00	92.80	.18
206B	71.28	.00	32.00	52.00	.74
206B	17.82	1.00	98.00	98.00	.00
206B	89.10	.20			.59
206C	4.20	.00	91.00	98.20	.06
207A	120.48	.00	32.00	52.00	.74
207A	30.12	1.00	98.00	98.00	.00
207A	150.60	.20			.59
207B	26.40	.00	69.00	86.20	.29
207B	6.60	1.00	98.00	98.00	.00
207B	33.00	.20			.23
221	4.30	.00	91.00	98.20	.06
222A	44.80	.00	78.00	92.80	.18
222B	2.00	.00	91.00	98.20	.06
204	69.80	.00	78.00	92.80	.18

WATERSHED 2, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	789.50
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.304
LOW LOSS FRACTION (Y BAR)	=	.333

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
201	5.20	.00	91.00
202	34.00	.00	91.00
203A	27.50	.00	91.00
203B	12.90	.00	78.00
204A	6.00	.00	91.00
204B	40.80	.00	78.00
205A	156.10	.00	78.00
205B	27.60	.20	32.00
205C	32.10	.00	91.00
206A	49.50	.00	78.00
206B	89.10	.20	32.00
206C	4.20	.00	91.00
207A	150.60	.20	32.00
207B	33.00	.20	69.00
221	4.30	.00	91.00
222A	44.80	.00	78.00
222B	2.00	.00	91.00
204	69.80	.00	78.00
208A	10.10	.20	69.00
208B	88.20	.20	32.00
209A	35.00	.20	32.00
209B	50.40	.20	56.00
209C	35.30	.20	69.00
261	4.20	.00	78.00
262A	13.80	.00	78.00
262B	28.40	.20	32.00
263A	8.20	.00	78.00
263B	36.70	.20	32.00
263C	46.90	.20	69.00
264A	3.50	.20	32.00
264B	88.80	.20	69.00
265A	36.00	.20	32.00
265B	70.60	.20	69.00
209D	20.00	.20	32.00
209E	40.10	.20	56.00
209F	123.60	.20	69.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
201	5.20	.00	91.00	98.20	.06
202	34.00	.00	91.00	98.20	.06
203A	27.50	.00	91.00	98.20	.06
203B	12.90	.00	78.00	92.80	.18
204A	6.00	.00	91.00	98.20	.06
204B	40.80	.00	78.00	92.80	.18
205A	156.10	.00	78.00	92.80	.18
205B	22.08	.00	32.00	52.00	.74
205B	5.52	1.00	98.00	98.00	.00
205B	27.60	.20			.59
205C	32.10	.00	91.00	98.20	.06
206A	49.50	.00	78.00	92.80	.18
206B	71.28	.00	32.00	52.00	.74
206B	17.82	1.00	98.00	98.00	.00
206B	89.10	.20			.59
206C	4.20	.00	91.00	98.20	.06
207A	120.48	.00	32.00	52.00	.74
207A	30.12	1.00	98.00	98.00	.00
207A	150.60	.20			.59
207B	26.40	.00	69.00	86.20	.29
207B	6.60	1.00	98.00	98.00	.00
207B	33.00	.20			.23
221	4.30	.00	91.00	98.20	.06
222A	44.80	.00	78.00	92.80	.18
222B	2.00	.00	91.00	98.20	.06
204	69.80	.00	78.00	92.80	.18
208A	8.08	.00	69.00	86.20	.29
208A	2.02	1.00	98.00	98.00	.00
208A	10.10	.20			.23
208B	70.56	.00	32.00	52.00	.74
208B	17.64	1.00	98.00	98.00	.00
208B	88.20	.20			.59
209A	28.00	.00	32.00	52.00	.74
209A	7.00	1.00	98.00	98.00	.00
209A	35.00	.20			.59
209B	40.32	.00	56.00	75.80	.42
209B	10.08	1.00	98.00	98.00	.00
209B	50.40	.20			.34
209C	28.24	.00	69.00	86.20	.29
209C	7.06	1.00	98.00	98.00	.00
209C	35.30	.20			.23

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
261	4.20	.00	78.00	92.80	.18
262A	13.80	.00	78.00	92.80	.18
262B	22.72	.00	32.00	52.00	.74
262B	5.68	1.00	98.00	98.00	.00
262B	28.40	.20			.59
263A	8.20	.00	78.00	92.80	.18
263B	29.36	.00	32.00	52.00	.74
263B	7.34	1.00	98.00	98.00	.00
263B	36.70	.20			.59
263C	37.52	.00	69.00	86.20	.29
263C	9.38	1.00	98.00	98.00	.00
263C	46.90	.20			.23
264A	2.80	.00	32.00	52.00	.74
264A	.70	1.00	98.00	98.00	.00
264A	3.50	.20			.59
264B	71.04	.00	69.00	86.20	.29
264B	17.76	1.00	98.00	98.00	.00
264B	88.80	.20			.23
265A	28.80	.00	32.00	52.00	.74
265A	7.20	1.00	98.00	98.00	.00
265A	36.00	.20			.59
265B	56.48	.00	69.00	86.20	.29
265B	14.12	1.00	98.00	98.00	.00
265B	70.60	.20			.23
209D	16.00	.00	32.00	52.00	.74
209D	4.00	1.00	98.00	98.00	.00
209D	20.00	.20			.59
209E	32.08	.00	56.00	75.80	.42
209E	8.02	1.00	98.00	98.00	.00
209E	40.10	.20			.34
209F	98.88	.00	69.00	86.20	.29
209F	24.72	1.00	98.00	98.00	.00
209F	123.60	.20			.23

WATERSHED 2, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1529.30
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.332
LOW LOSS FRACTION (Y BAR)	=	.376

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.11

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
201	5.20	.00	91.00
202	34.00	.00	91.00
203A	27.50	.00	91.00
203B	12.90	.00	78.00
204A	6.00	.00	91.00
204B	40.80	.00	78.00
205A	156.10	.00	78.00
205B	27.60	.20	32.00
205C	32.10	.00	91.00
206A	49.50	.00	78.00
206B	89.10	.20	32.00
206C	4.20	.00	91.00
207A	150.60	.20	32.00
207B	33.00	.20	69.00
221	4.30	.00	91.00
222A	44.80	.00	78.00
222B	2.00	.00	91.00
204	69.80	.00	78.00
208A	10.10	.20	69.00
208B	88.20	.20	32.00
209A	35.00	.20	32.00
209B	50.40	.20	56.00
209C	35.30	.20	69.00
261	4.20	.00	78.00
262A	13.80	.00	78.00
262B	28.40	.20	32.00
263A	8.20	.00	78.00
263B	36.70	.20	32.00
263C	46.90	.20	69.00
264A	3.50	.20	32.00
264B	88.80	.20	69.00
265A	36.00	.20	32.00
265B	70.60	.20	69.00
209D	20.00	.20	32.00
209E	40.10	.20	56.00
209F	123.60	.20	69.00
210	72.40	.20	56.00
291A	5.10	.00	78.00
291B	4.90	.20	32.00
292A	10.00	.20	32.00
292B	36.80	.20	69.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.11

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
293	93.60	.20	69.00
294	96.40	.20	69.00
295A	89.00	.20	56.00
295B	128.60	.20	69.00
210B	65.20	.20	56.00
211A	176.30	.20	56.00
231	8.80	.00	91.00
232	18.90	.00	91.00
233	36.70	.00	91.00
234	73.00	.00	91.00
235A	4.50	.00	78.00
235B	62.00	.00	91.00
241	10.00	.00	91.00
242	76.60	.00	91.00
243A	93.80	.00	91.00
243B	2.00	.00	86.00
233A	2.00	.00	86.00
233B	83.50	.00	91.00
201A	2.40	.00	86.00
201B	2.00	.00	91.00
202A	4.30	.00	86.00
202B	32.10	.00	91.00
235	38.60	.00	86.00
236A	2.20	.00	91.00
236B	9.80	.00	78.00
2.71	4.20	.00	86.00
272	24.20	.00	86.00
273A	28.70	.00	86.00
273B	8.70	.00	91.00
236	53.30	.00	91.00
237	2.00	.00	78.00
237B	36.30	.00	91.00
237C	63.40	.20	69.00
251	4.20	.00	91.00
252	8.10	.00	91.00
253A	55.10	.00	86.00
253B	13.70	.00	91.00
254	34.90	.00	86.00
255A	47.70	.00	86.00
255B	19.40	.00	91.00
230	3.00	.00	91.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.11

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
240A	5.00	.00	86.00
240B	11.00	.00	91.00
250A	26.60	.00	86.00
250B	1.00	.00	91.00
260	49.60	.00	86.00
255A	22.10	.00	86.00
255B	43.10	.00	91.00
237A	17.00	.00	91.00
237B	72.00	.20	69.00
238	129.50	.20	69.00
239	94.60	.20	69.00
211A	106.50	.20	56.00
211B	191.90	.20	69.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.11

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
201	5.20	.00	91.00	98.20	.06
202	34.00	.00	91.00	98.20	.06
203A	27.50	.00	91.00	98.20	.06
203B	12.90	.00	78.00	92.80	.18
204A	6.00	.00	91.00	98.20	.06
204B	40.80	.00	78.00	92.80	.18
205A	156.10	.00	78.00	92.80	.18
205B	22.08	.00	32.00	52.00	.74
205B	5.52	1.00	98.00	98.00	.00
205B	27.60	.20			.59
205C	32.10	.00	91.00	98.20	.06
206A	49.50	.00	78.00	92.80	.18
206B	71.28	.00	32.00	52.00	.74
206B	17.82	1.00	98.00	98.00	.00
206B	89.10	.20			.59
206C	4.20	.00	91.00	98.20	.06
207A	120.48	.00	32.00	52.00	.74
207A	30.12	1.00	98.00	98.00	.00
207A	150.60	.20			.59
207B	26.40	.00	69.00	86.20	.29
207B	6.60	1.00	98.00	98.00	.00
207B	33.00	.20			.23
221	4.30	.00	91.00	98.20	.06
222A	44.80	.00	78.00	92.80	.18
222B	2.00	.00	91.00	98.20	.06
204	69.80	.00	78.00	92.80	.18
208A	8.08	.00	69.00	86.20	.29
208A	2.02	1.00	98.00	98.00	.00
208A	10.10	.20			.23
208B	70.56	.00	32.00	52.00	.74
208B	17.64	1.00	98.00	98.00	.00
208B	88.20	.20			.59
209A	28.00	.00	32.00	52.00	.74
209A	7.00	1.00	98.00	98.00	.00
209A	35.00	.20			.59
209B	40.32	.00	56.00	75.80	.42
209B	10.08	1.00	98.00	98.00	.00
209B	50.40	.20			.34
209C	28.24	.00	69.00	86.20	.29
209C	7.06	1.00	98.00	98.00	.00
209C	35.30	.20			.23

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.11

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
261	4.20	.00	78.00	92.80	.18
262A	13.80	.00	78.00	92.80	.18
262B	22.72	.00	32.00	52.00	.74
262B	5.68	1.00	98.00	98.00	.00
262B	28.40	.20			.59
263A	8.20	.00	78.00	92.80	.18
263B	29.36	.00	32.00	52.00	.74
263B	7.34	1.00	98.00	98.00	.00
263B	36.70	.20			.59
263C	37.52	.00	69.00	86.20	.29
263C	9.38	1.00	98.00	98.00	.00
263C	46.90	.20			.23
264A	2.80	.00	32.00	52.00	.74
264A	.70	1.00	98.00	98.00	.00
264A	3.50	.20			.59
264B	71.04	.00	69.00	86.20	.29
264B	17.76	1.00	98.00	98.00	.00
264B	88.80	.20			.23
265A	28.80	.00	32.00	52.00	.74
265A	7.20	1.00	98.00	98.00	.00
265A	36.00	.20			.59
265B	56.48	.00	69.00	86.20	.29
265B	14.12	1.00	98.00	98.00	.00
265B	70.60	.20			.23
209D	16.00	.00	32.00	52.00	.74
209D	4.00	1.00	98.00	98.00	.00
209D	20.00	.20			.59
209E	32.08	.00	56.00	75.80	.42
209E	8.02	1.00	98.00	98.00	.00
209E	40.10	.20			.34
209F	98.88	.00	69.00	86.20	.29
209F	24.72	1.00	98.00	98.00	.00
209F	123.60	.20			.23
210	57.92	.00	56.00	75.80	.42
210	14.48	1.00	98.00	98.00	.00
210	72.40	.20			.34
291A	5.10	.00	78.00	92.80	.18
291B	3.92	.00	32.00	52.00	.74
291B	.98	1.00	98.00	98.00	.00
291B	4.90	.20			.59
292A	8.00	.00	32.00	52.00	.74

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.11

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
292A	2.00	1.00	98.00	98.00	.00
292A	10.00	.20			.59
292B	29.44	.00	69.00	86.20	.29
292B	7.36	1.00	98.00	98.00	.00
292B	36.80	.20			.23
293	74.88	.00	69.00	86.20	.29
293	18.72	1.00	98.00	98.00	.00
293	93.60	.20			.23
294	77.12	.00	69.00	86.20	.29
294	19.28	1.00	98.00	98.00	.00
294	96.40	.20			.23
295A	71.20	.00	56.00	75.80	.42
295A	17.80	1.00	98.00	98.00	.00
295A	89.00	.20			.34
295B	102.88	.00	69.00	86.20	.29
295B	25.72	1.00	98.00	98.00	.00
295B	128.60	.20			.23
210B	52.16	.00	56.00	75.80	.42
210B	13.04	1.00	98.00	98.00	.00
210B	65.20	.20			.34
211A	141.04	.00	56.00	75.80	.42
211A	35.26	1.00	98.00	98.00	.00
211A	176.30	.20			.34
231	8.80	.00	91.00	98.20	.06
232	18.90	.00	91.00	98.20	.06
233	36.70	.00	91.00	98.20	.06
234	73.00	.00	91.00	98.20	.06
235A	4.50	.00	78.00	92.80	.18
235B	62.00	.00	91.00	98.20	.06
241	10.00	.00	91.00	98.20	.06
242	76.60	.00	91.00	98.20	.06
243A	93.80	.00	91.00	98.20	.06
243B	2.00	.00	86.00	97.20	.11
233A	2.00	.00	86.00	97.20	.11
233B	83.50	.00	91.00	98.20	.06
201A	2.40	.00	86.00	97.20	.11
201B	2.00	.00	91.00	98.20	.06
202A	4.30	.00	86.00	97.20	.11
202B	32.10	.00	91.00	98.20	.06
235	38.60	.00	86.00	97.20	.11
236A	2.20	.00	91.00	98.20	.06

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.11

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
236B	9.80	.00	78.00	92.80	.18
2.71	4.20	.00	86.00	97.20	.11
272	24.20	.00	86.00	97.20	.11
273A	28.70	.00	86.00	97.20	.11
273B	8.70	.00	91.00	98.20	.06
236	53.30	.00	91.00	98.20	.06
237	2.00	.00	78.00	92.80	.18
237B	36.30	.00	91.00	98.20	.06
237C	50.72	.00	69.00	86.20	.29
237C	12.68	1.00	98.00	98.00	.00
237C	63.40	.20			.23
251	4.20	.00	91.00	98.20	.06
252	8.10	.00	91.00	98.20	.06
253A	55.10	.00	86.00	97.20	.11
253B	13.70	.00	91.00	98.20	.06
254	34.90	.00	86.00	97.20	.11
255A	47.70	.00	86.00	97.20	.11
255B	19.40	.00	91.00	98.20	.06
230	3.00	.00	91.00	98.20	.06
240A	5.00	.00	86.00	97.20	.11
240B	11.00	.00	91.00	98.20	.06
250A	26.60	.00	86.00	97.20	.11
250B	1.00	.00	91.00	98.20	.06
260	49.60	.00	86.00	97.20	.11
255A	22.10	.00	86.00	97.20	.11
255B	43.10	.00	91.00	98.20	.06
237A	17.00	.00	91.00	98.20	.06
237B	57.60	.00	69.00	86.20	.29
237B	14.40	1.00	98.00	98.00	.00
237B	72.00	.20			.23
238	103.60	.00	69.00	86.20	.29
238	25.90	1.00	98.00	98.00	.00
238	129.50	.20			.23
239	75.68	.00	69.00	86.20	.29
239	18.92	1.00	98.00	98.00	.00
239	94.60	.20			.23
211A	85.20	.00	56.00	75.80	.42
211A	21.30	1.00	98.00	98.00	.00
211A	106.50	.20			.34
211B	153.52	.00	69.00	86.20	.29
211B	38.38	1.00	98.00	98.00	.00
211B	191.90	.20			.23

WATERSHED 2, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	4047.60
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.242
LOW LOSS FRACTION (Y BAR)	=	.271

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 2, DESIGN MODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
201	5.20	.00	91.00
202	34.00	.00	91.00
203A	27.50	.00	91.00
203B	12.90	.00	78.00
204A	6.00	.00	91.00
204B	40.80	.00	78.00
205A	156.10	.00	78.00
205B	27.60	.20	32.00
205C	32.10	.00	91.00
206A	49.50	.00	78.00
206B	89.10	.20	32.00
206C	4.20	.00	91.00
207A	150.60	.20	32.00
207B	33.00	.20	69.00
221	4.30	.00	91.00
222A	44.80	.00	78.00
222B	2.00	.00	91.00
204	69.80	.00	78.00
208A	10.10	.20	69.00
208B	88.20	.20	32.00
209A	35.00	.20	32.00
209B	50.40	.20	56.00
209C	35.30	.20	69.00
261	4.20	.00	78.00
262A	13.80	.00	78.00
262B	28.40	.20	32.00
263A	8.20	.00	78.00
263B	36.70	.20	32.00
263C	46.90	.20	69.00
264A	3.50	.20	32.00
264B	88.80	.20	69.00
265A	36.00	.20	32.00
265B	70.60	.20	69.00
209D	20.00	.20	32.00
209E	40.10	.20	56.00
209F	123.60	.20	69.00
210	72.40	.20	56.00
291A	5.10	.00	78.00
291B	4.90	.20	32.00
292A	10.00	.20	32.00
292B	36.80	.20	69.00

WATERSHED 2, DESIGN MODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
293	93.60	.20	69.00
294	96.40	.20	69.00
295A	89.00	.20	56.00
295B	128.60	.20	69.00
210B	65.20	.20	56.00
211A	176.30	.20	56.00
231	8.80	.00	91.00
232	18.90	.00	91.00
233	36.70	.00	91.00
234	73.00	.00	91.00
235A	4.50	.00	78.00
235B	62.00	.00	91.00
241	10.00	.00	91.00
242	76.60	.00	91.00
243A	93.80	.00	91.00
243B	2.00	.00	86.00
233A	2.00	.00	86.00
233B	83.50	.00	91.00
201A	2.40	.00	86.00
201B	2.00	.00	91.00
202A	4.30	.00	86.00
202B	32.10	.00	91.00
235	38.60	.00	86.00
236A	2.20	.00	91.00
236B	9.80	.00	78.00
2.71	4.20	.00	86.00
272	24.20	.00	86.00
273A	28.70	.00	86.00
273B	8.70	.00	91.00
236	53.30	.00	91.00
237	2.00	.00	78.00
237B	36.30	.00	91.00
237C	63.40	.20	69.00
251	4.20	.00	91.00
252	8.10	.00	91.00
253A	55.10	.00	86.00
253B	13.70	.00	91.00
254	34.90	.00	86.00
255A	47.70	.00	86.00
255B	19.40	.00	91.00
230	3.00	.00	91.00

WATERSHED 2, DESIGN MODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
240A	5.00	.00	86.00
240B	11.00	.00	91.00
250A	26.60	.00	86.00
250B	1.00	.00	91.00
260	49.60	.00	86.00
255A	22.10	.00	86.00
255B	43.10	.00	91.00
237A	17.00	.00	91.00
237B	72.00	.20	69.00
238	129.50	.20	69.00
239	94.60	.20	69.00
211A	106.50	.20	56.00
211B	191.90	.20	69.00
212A	267.30	.20	56.00
212B	153.30	.20	69.00
213A	28.10	.20	56.00
213B	14.10	.20	69.00

WATERSHED 2, DESIGN MODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
201	5.20	.00	91.00	98.20	.06
202	34.00	.00	91.00	98.20	.06
203A	27.50	.00	91.00	98.20	.06
203B	12.90	.00	78.00	92.80	.18
204A	6.00	.00	91.00	98.20	.06
204B	40.80	.00	78.00	92.80	.18
205A	156.10	.00	78.00	92.80	.18
205B	22.08	.00	32.00	52.00	.74
205B	5.52	1.00	98.00	98.00	.00
205B	27.60	.20			.59
205C	32.10	.00	91.00	98.20	.06
206A	49.50	.00	78.00	92.80	.18
206B	71.28	.00	32.00	52.00	.74
206B	17.82	1.00	98.00	98.00	.00
206B	89.10	.20			.59
206C	4.20	.00	91.00	98.20	.06
207A	120.48	.00	32.00	52.00	.74
207A	30.12	1.00	98.00	98.00	.00
207A	150.60	.20			.59
207B	26.40	.00	69.00	86.20	.29
207B	6.60	1.00	98.00	98.00	.00
207B	33.00	.20			.23
221	4.30	.00	91.00	98.20	.06
222A	44.80	.00	78.00	92.80	.18
222B	2.00	.00	91.00	98.20	.06
204	69.80	.00	78.00	92.80	.18
208A	8.08	.00	69.00	86.20	.29
208A	2.02	1.00	98.00	98.00	.00
208A	10.10	.20			.23
208B	70.56	.00	32.00	52.00	.74
208B	17.64	1.00	98.00	98.00	.00
208B	88.20	.20			.59
209A	28.00	.00	32.00	52.00	.74
209A	7.00	1.00	98.00	98.00	.00
209A	35.00	.20			.59
209B	40.32	.00	56.00	75.80	.42
209B	10.08	1.00	98.00	98.00	.00
209B	50.40	.20			.34
209C	28.24	.00	69.00	86.20	.29
209C	7.06	1.00	98.00	98.00	.00
209C	35.30	.20			.23

WATERSHED 2, DESIGN MODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
261	4.20	.00	78.00	92.80	.18
262A	13.80	.00	78.00	92.80	.18
262B	22.72	.00	32.00	52.00	.74
262B	5.68	1.00	98.00	98.00	.00
262B	28.40	.20			.59
263A	8.20	.00	78.00	92.80	.18
263B	29.36	.00	32.00	52.00	.74
263B	7.34	1.00	98.00	98.00	.00
263B	36.70	.20			.59
263C	37.52	.00	69.00	86.20	.29
263C	9.38	1.00	98.00	98.00	.00
263C	46.90	.20			.23
264A	2.80	.00	32.00	52.00	.74
264A	.70	1.00	98.00	98.00	.00
264A	3.50	.20			.59
264B	71.04	.00	69.00	86.20	.29
264B	17.76	1.00	98.00	98.00	.00
264B	88.80	.20			.23
265A	28.80	.00	32.00	52.00	.74
265A	7.20	1.00	98.00	98.00	.00
265A	36.00	.20			.59
265B	56.48	.00	69.00	86.20	.29
265B	14.12	1.00	98.00	98.00	.00
265B	70.60	.20			.23
209D	16.00	.00	32.00	52.00	.74
209D	4.00	1.00	98.00	98.00	.00
209D	20.00	.20			.59
209E	32.08	.00	56.00	75.80	.42
209E	8.02	1.00	98.00	98.00	.00
209E	40.10	.20			.34
209F	98.88	.00	69.00	86.20	.29
209F	24.72	1.00	98.00	98.00	.00
209F	123.60	.20			.23
210	57.92	.00	56.00	75.80	.42
210	14.48	1.00	98.00	98.00	.00
210	72.40	.20			.34
291A	5.10	.00	78.00	92.80	.18
291B	3.92	.00	32.00	52.00	.74
291B	.98	1.00	98.00	98.00	.00
291B	4.90	.20			.59
292A	8.00	.00	32.00	52.00	.74

WATERSHED 2, DESIGN MODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
292A	2.00	1.00	98.00	98.00	.00
292A	10.00	.20			.59
292B	29.44	.00	69.00	86.20	.29
292B	7.36	1.00	98.00	98.00	.00
292B	36.80	.20			.23
293	74.88	.00	69.00	86.20	.29
293	18.72	1.00	98.00	98.00	.00
293	93.60	.20			.23
294	77.12	.00	69.00	86.20	.29
294	19.28	1.00	98.00	98.00	.00
294	96.40	.20			.23
295A	71.20	.00	56.00	75.80	.42
295A	17.80	1.00	98.00	98.00	.00
295A	89.00	.20			.34
295B	102.88	.00	69.00	86.20	.29
295B	25.72	1.00	98.00	98.00	.00
295B	128.60	.20			.23
210B	52.16	.00	56.00	75.80	.42
210B	13.04	1.00	98.00	98.00	.00
210B	65.20	.20			.34
211A	141.04	.00	56.00	75.80	.42
211A	35.26	1.00	98.00	98.00	.00
211A	176.30	.20			.34
231	8.80	.00	91.00	98.20	.06
232	18.90	.00	91.00	98.20	.06
233	36.70	.00	91.00	98.20	.06
234	73.00	.00	91.00	98.20	.06
235A	4.50	.00	78.00	92.80	.18
235B	62.00	.00	91.00	98.20	.06
241	10.00	.00	91.00	98.20	.06
242	76.60	.00	91.00	98.20	.06
243A	93.80	.00	91.00	98.20	.06
243B	2.00	.00	86.00	97.20	.11
233A	2.00	.00	86.00	97.20	.11
233B	83.50	.00	91.00	98.20	.06
201A	2.40	.00	86.00	97.20	.11
201B	2.00	.00	91.00	98.20	.06
202A	4.30	.00	86.00	97.20	.11
202B	32.10	.00	91.00	98.20	.06
235	38.60	.00	86.00	97.20	.11
236A	2.20	.00	91.00	98.20	.06

WATERSHED 2, DESIGN MODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
236B	9.80	.00	78.00	92.80	.18
2.71	4.20	.00	86.00	97.20	.11
272	24.20	.00	86.00	97.20	.11
273A	28.70	.00	86.00	97.20	.11
273B	8.70	.00	91.00	98.20	.06
236	53.30	.00	91.00	98.20	.06
237	2.00	.00	78.00	92.80	.18
237B	36.30	.00	91.00	98.20	.06
237C	50.72	.00	69.00	86.20	.29
237C	12.68	1.00	98.00	98.00	.00
237C	63.40	.20			.23
251	4.20	.00	91.00	98.20	.06
252	8.10	.00	91.00	98.20	.06
253A	55.10	.00	86.00	97.20	.11
253B	13.70	.00	91.00	98.20	.06
254	34.90	.00	86.00	97.20	.11
255A	47.70	.00	86.00	97.20	.11
255B	19.40	.00	91.00	98.20	.06
230	3.00	.00	91.00	98.20	.06
240A	5.00	.00	86.00	97.20	.11
240B	11.00	.00	91.00	98.20	.06
250A	26.60	.00	86.00	97.20	.11
250B	1.00	.00	91.00	98.20	.06
260	49.60	.00	86.00	97.20	.11
255A	22.10	.00	86.00	97.20	.11
255B	43.10	.00	91.00	98.20	.06
237A	17.00	.00	91.00	98.20	.06
237B	57.60	.00	69.00	86.20	.29
237B	14.40	1.00	98.00	98.00	.00
237B	72.00	.20			.23
238	103.60	.00	69.00	86.20	.29
238	25.90	1.00	98.00	98.00	.00
238	129.50	.20			.23
239	75.68	.00	69.00	86.20	.29
239	18.92	1.00	98.00	98.00	.00
239	94.60	.20			.23
211A	85.20	.00	56.00	75.80	.42
211A	21.30	1.00	98.00	98.00	.00
211A	106.50	.20			.34
211B	153.52	.00	69.00	86.20	.29
211B	38.38	1.00	98.00	98.00	.00
211B	191.90	.20			.23

WATERSHED 2, DESIGN MODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
212A	213.84	.00	56.00	75.80	.42
212A	53.46	1.00	98.00	98.00	.00
212A	267.30	.20			.34
212B	122.64	.00	69.00	86.20	.29
212B	30.66	1.00	98.00	98.00	.00
212B	153.30	.20			.23
213A	22.48	.00	56.00	75.80	.42
213A	5.62	1.00	98.00	98.00	.00
213A	28.10	.20			.34
213B	11.28	.00	69.00	86.20	.29
213B	2.82	1.00	98.00	98.00	.00
213B	14.10	.20			.23

WATERSHED 2, DESIGN MODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	4510.40
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.248
LOW LOSS FRACTION (Y BAR)	=	.280

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.15

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
201	5.20	.00	91.00
202	34.00	.00	91.00
203A	27.50	.00	91.00
203B	12.90	.00	78.00
204A	6.00	.00	91.00
204B	40.80	.00	78.00
205A	156.10	.00	78.00
205B	27.60	.20	32.00
205C	32.10	.00	91.00
206A	49.50	.00	78.00
206B	89.10	.20	32.00
206C	4.20	.00	91.00
207A	150.60	.20	32.00
207B	33.00	.20	69.00
221	4.30	.00	91.00
222A	44.80	.00	78.00
222B	2.00	.00	91.00
204	69.80	.00	78.00
208A	10.10	.20	69.00
208B	88.20	.20	32.00
209A	35.00	.20	32.00
209B	50.40	.20	56.00
209C	35.30	.20	69.00
261	4.20	.00	78.00
262A	13.80	.00	78.00
262B	28.40	.20	32.00
263A	8.20	.00	78.00
263B	36.70	.20	32.00
263C	46.90	.20	69.00
264A	3.50	.20	32.00
264B	88.80	.20	69.00
265A	36.00	.20	32.00
265B	70.60	.20	69.00
209D	20.00	.20	32.00
209E	40.10	.20	56.00
209F	123.60	.20	69.00
210	72.40	.20	56.00
291A	5.10	.00	78.00
291B	4.90	.20	32.00
292A	10.00	.20	32.00
292B	36.80	.20	69.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.15

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
293	93.60	.20	69.00
294	96.40	.20	69.00
295A	89.00	.20	56.00
295B	128.60	.20	69.00
210B	65.20	.20	56.00
211A	176.30	.20	56.00
231	8.80	.00	91.00
232	18.90	.00	91.00
233	36.70	.00	91.00
234	73.00	.00	91.00
235A	4.50	.00	78.00
235B	62.00	.00	91.00
241	10.00	.00	91.00
242	76.60	.00	91.00
243A	93.80	.00	91.00
243B	2.00	.00	86.00
233A	2.00	.00	86.00
233B	83.50	.00	91.00
201A	2.40	.00	86.00
201B	2.00	.00	91.00
202A	4.30	.00	86.00
202B	32.10	.00	91.00
235	38.60	.00	86.00
236A	2.20	.00	91.00
236B	9.80	.00	78.00
2.71	4.20	.00	86.00
272	24.20	.00	86.00
273A	28.70	.00	86.00
273B	8.70	.00	91.00
236	53.30	.00	91.00
237	2.00	.00	78.00
237B	36.30	.00	91.00
237C	63.40	.20	69.00
251	4.20	.00	91.00
252	8.10	.00	91.00
253A	55.10	.00	86.00
253B	13.70	.00	91.00
254	34.90	.00	86.00
255A	47.70	.00	86.00
255B	19.40	.00	91.00
230	3.00	.00	91.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.15

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
240A	5.00	.00	86.00
240B	11.00	.00	91.00
250A	26.60	.00	86.00
250B	1.00	.00	91.00
260	49.60	.00	86.00
255A	22.10	.00	86.00
255B	43.10	.00	91.00
237A	17.00	.00	91.00
237B	72.00	.20	69.00
238	129.50	.20	69.00
239	94.60	.20	69.00
211A	106.50	.20	56.00
211B	191.90	.20	69.00
212A	267.30	.20	56.00
212B	153.30	.20	69.00
213A	28.10	.20	56.00
213B	14.10	.20	69.00
214	63.40	.20	56.00
215A	106.50	.20	56.00
21	5.50	.20	56.00
22A	23.90	.20	56.00
22B	11.00	.20	69.00
23	20.30	.20	56.00
23B	66.00	.20	69.00
24	202.10	.20	69.00
25	81.70	.20	69.00
26A	62.20	.20	56.00
26B	89.30	.20	69.00
215B	7.30	.20	69.00
215C	83.60	.20	56.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.15

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
201	5.20	.00	91.00	98.20	.06
202	34.00	.00	91.00	98.20	.06
203A	27.50	.00	91.00	98.20	.06
203B	12.90	.00	78.00	92.80	.18
204A	6.00	.00	91.00	98.20	.06
204B	40.80	.00	78.00	92.80	.18
205A	156.10	.00	78.00	92.80	.18
205B	22.08	.00	32.00	52.00	.74
205B	5.52	1.00	98.00	98.00	.00
205B	27.60	.20			.59
205C	32.10	.00	91.00	98.20	.06
206A	49.50	.00	78.00	92.80	.18
206B	71.28	.00	32.00	52.00	.74
206B	17.82	1.00	98.00	98.00	.00
206B	89.10	.20			.59
206C	4.20	.00	91.00	98.20	.06
207A	120.48	.00	32.00	52.00	.74
207A	30.12	1.00	98.00	98.00	.00
207A	150.60	.20			.59
207B	26.40	.00	69.00	86.20	.29
207B	6.60	1.00	98.00	98.00	.00
207B	33.00	.20			.23
221	4.30	.00	91.00	98.20	.06
222A	44.80	.00	78.00	92.80	.18
222B	2.00	.00	91.00	98.20	.06
204	69.80	.00	78.00	92.80	.18
208A	8.08	.00	69.00	86.20	.29
208A	2.02	1.00	98.00	98.00	.00
208A	10.10	.20			.23
208B	70.56	.00	32.00	52.00	.74
208B	17.64	1.00	98.00	98.00	.00
208B	88.20	.20			.59
209A	28.00	.00	32.00	52.00	.74
209A	7.00	1.00	98.00	98.00	.00
209A	35.00	.20			.59
209B	40.32	.00	56.00	75.80	.42
209B	10.08	1.00	98.00	98.00	.00
209B	50.40	.20			.34
209C	28.24	.00	69.00	86.20	.29
209C	7.06	1.00	98.00	98.00	.00
209C	35.30	.20			.23

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.15

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
261	4.20	.00	78.00	92.80	.18
262A	13.80	.00	78.00	92.80	.18
262B	22.72	.00	32.00	52.00	.74
262B	5.68	1.00	98.00	98.00	.00
262B	28.40	.20			.59
263A	8.20	.00	78.00	92.80	.18
263B	29.36	.00	32.00	52.00	.74
263B	7.34	1.00	98.00	98.00	.00
263B	36.70	.20			.59
263C	37.52	.00	69.00	86.20	.29
263C	9.38	1.00	98.00	98.00	.00
263C	46.90	.20			.23
264A	2.80	.00	32.00	52.00	.74
264A	.70	1.00	98.00	98.00	.00
264A	3.50	.20			.59
264B	71.04	.00	69.00	86.20	.29
264B	17.76	1.00	98.00	98.00	.00
264B	88.80	.20			.23
265A	28.80	.00	32.00	52.00	.74
265A	7.20	1.00	98.00	98.00	.00
265A	36.00	.20			.59
265B	56.48	.00	69.00	86.20	.29
265B	14.12	1.00	98.00	98.00	.00
265B	70.60	.20			.23
209D	16.00	.00	32.00	52.00	.74
209D	4.00	1.00	98.00	98.00	.00
209D	20.00	.20			.59
209E	32.08	.00	56.00	75.80	.42
209E	8.02	1.00	98.00	98.00	.00
209E	40.10	.20			.34
209F	98.88	.00	69.00	86.20	.29
209F	24.72	1.00	98.00	98.00	.00
209F	123.60	.20			.23
210	57.92	.00	56.00	75.80	.42
210	14.48	1.00	98.00	98.00	.00
210	72.40	.20			.34
291A	5.10	.00	78.00	92.80	.18
291B	3.92	.00	32.00	52.00	.74
291B	.98	1.00	98.00	98.00	.00
291B	4.90	.20			.59
292A	8.00	.00	32.00	52.00	.74

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.15

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
292A	2.00	1.00	98.00	98.00	.00
292A	10.00	.20			.59
292B	29.44	.00	69.00	86.20	.29
292B	7.36	1.00	98.00	98.00	.00
292B	36.80	.20			.23
293	74.88	.00	69.00	86.20	.29
293	18.72	1.00	98.00	98.00	.00
293	93.60	.20			.23
294	77.12	.00	69.00	86.20	.29
294	19.28	1.00	98.00	98.00	.00
294	96.40	.20			.23
295A	71.20	.00	56.00	75.80	.42
295A	17.80	1.00	98.00	98.00	.00
295A	89.00	.20			.34
295B	102.88	.00	69.00	86.20	.29
295B	25.72	1.00	98.00	98.00	.00
295B	128.60	.20			.23
210B	52.16	.00	56.00	75.80	.42
210B	13.04	1.00	98.00	98.00	.00
210B	65.20	.20			.34
211A	141.04	.00	56.00	75.80	.42
211A	35.26	1.00	98.00	98.00	.00
211A	176.30	.20			.34
231	8.80	.00	91.00	98.20	.06
232	18.90	.00	91.00	98.20	.06
233	36.70	.00	91.00	98.20	.06
234	73.00	.00	91.00	98.20	.06
235A	4.50	.00	78.00	92.80	.18
235B	62.00	.00	91.00	98.20	.06
241	10.00	.00	91.00	98.20	.06
242	76.60	.00	91.00	98.20	.06
243A	93.80	.00	91.00	98.20	.06
243B	2.00	.00	86.00	97.20	.11
233A	2.00	.00	86.00	97.20	.11
233B	83.50	.00	91.00	98.20	.06
201A	2.40	.00	86.00	97.20	.11
201B	2.00	.00	91.00	98.20	.06
202A	4.30	.00	86.00	97.20	.11
202B	32.10	.00	91.00	98.20	.06
235	38.60	.00	86.00	97.20	.11
236A	2.20	.00	91.00	98.20	.06

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.15

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
236B	9.80	.00	78.00	92.80	.18
2.71	4.20	.00	86.00	97.20	.11
272	24.20	.00	86.00	97.20	.11
273A	28.70	.00	86.00	97.20	.11
273B	8.70	.00	91.00	98.20	.06
236	53.30	.00	91.00	98.20	.06
237	2.00	.00	78.00	92.80	.18
237B	36.30	.00	91.00	98.20	.06
237C	50.72	.00	69.00	86.20	.29
237C	12.68	1.00	98.00	98.00	.00
237C	63.40	.20			.23
251	4.20	.00	91.00	98.20	.06
252	8.10	.00	91.00	98.20	.06
253A	55.10	.00	86.00	97.20	.11
253B	13.70	.00	91.00	98.20	.06
254	34.90	.00	86.00	97.20	.11
255A	47.70	.00	86.00	97.20	.11
255B	19.40	.00	91.00	98.20	.06
230	3.00	.00	91.00	98.20	.06
240A	5.00	.00	86.00	97.20	.11
240B	11.00	.00	91.00	98.20	.06
250A	26.60	.00	86.00	97.20	.11
250B	1.00	.00	91.00	98.20	.06
260	49.60	.00	86.00	97.20	.11
255A	22.10	.00	86.00	97.20	.11
255B	43.10	.00	91.00	98.20	.06
237A	17.00	.00	91.00	98.20	.06
237B	57.60	.00	69.00	86.20	.29
237B	14.40	1.00	98.00	98.00	.00
237B	72.00	.20			.23
238	103.60	.00	69.00	86.20	.29
238	25.90	1.00	98.00	98.00	.00
238	129.50	.20			.23
239	75.68	.00	69.00	86.20	.29
239	18.92	1.00	98.00	98.00	.00
239	94.60	.20			.23
211A	85.20	.00	56.00	75.80	.42
211A	21.30	1.00	98.00	98.00	.00
211A	106.50	.20			.34
211B	153.52	.00	69.00	86.20	.29
211B	38.38	1.00	98.00	98.00	.00
211B	191.90	.20			.23

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.15

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
212A	213.84	.00	56.00	75.80	.42
212A	53.46	1.00	98.00	98.00	.00
212A	267.30	.20			.34
212B	122.64	.00	69.00	86.20	.29
212B	30.66	1.00	98.00	98.00	.00
212B	153.30	.20			.23
213A	22.48	.00	56.00	75.80	.42
213A	5.62	1.00	98.00	98.00	.00
213A	28.10	.20			.34
213B	11.28	.00	69.00	86.20	.29
213B	2.82	1.00	98.00	98.00	.00
213B	14.10	.20			.23
214	50.72	.00	56.00	75.80	.42
214	12.68	1.00	98.00	98.00	.00
214	63.40	.20			.34
215A	85.20	.00	56.00	75.80	.42
215A	21.30	1.00	98.00	98.00	.00
215A	106.50	.20			.34
21	4.40	.00	56.00	75.80	.42
21	1.10	1.00	98.00	98.00	.00
21	5.50	.20			.34
22A	19.12	.00	56.00	75.80	.42
22A	4.78	1.00	98.00	98.00	.00
22A	23.90	.20			.34
22B	8.80	.00	69.00	86.20	.29
22B	2.20	1.00	98.00	98.00	.00
22B	11.00	.20			.23
23	16.24	.00	56.00	75.80	.42
23	4.06	1.00	98.00	98.00	.00
23	20.30	.20			.34
23B	52.80	.00	69.00	86.20	.29
23B	13.20	1.00	98.00	98.00	.00
23B	66.00	.20			.23
24	161.68	.00	69.00	86.20	.29
24	40.42	1.00	98.00	98.00	.00
24	202.10	.20			.23
25	65.36	.00	69.00	86.20	.29
25	16.34	1.00	98.00	98.00	.00
25	81.70	.20			.23
26A	49.76	.00	56.00	75.80	.42
26A	12.44	1.00	98.00	98.00	.00
26A	62.20	.20			.34

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.15

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
26B	71.44	.00	69.00	86.20	.29
26B	17.86	1.00	98.00	98.00	.00
26B	89.30	.20			.23
215B	5.84	.00	69.00	86.20	.29
215B	1.46	1.00	98.00	98.00	.00
215B	7.30	.20			.23
215C	66.88	.00	56.00	75.80	.42
215C	16.72	1.00	98.00	98.00	.00
215C	83.60	.20			.34

WATERSHED 2, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	5333.20
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.252
LOW LOSS FRACTION (Y BAR)	=	.288

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
201	5.20	.00	91.00
202	34.00	.00	91.00
203A	27.50	.00	91.00
203B	12.90	.00	78.00
204A	6.00	.00	91.00
204B	40.80	.00	78.00
205A	156.10	.00	78.00
205B	27.60	.20	32.00
205C	32.10	.00	91.00
206A	49.50	.00	78.00
206B	89.10	.20	32.00
206C	4.20	.00	91.00
207A	150.60	.20	32.00
207B	33.00	.20	69.00
221	4.30	.00	91.00
222A	44.80	.00	78.00
222B	2.00	.00	91.00
204	69.80	.00	78.00
208A	10.10	.20	69.00
208B	88.20	.20	32.00
209A	35.00	.20	32.00
209B	50.40	.20	56.00
209C	35.30	.20	69.00
261	4.20	.00	78.00
262A	13.80	.00	78.00
262B	28.40	.20	32.00
263A	8.20	.00	78.00
263B	36.70	.20	32.00
263C	46.90	.20	69.00
264A	3.50	.20	32.00
264B	88.80	.20	69.00
265A	36.00	.20	32.00
265B	70.60	.20	69.00
209D	20.00	.20	32.00
209E	40.10	.20	56.00
209F	123.60	.20	69.00
210	72.40	.20	56.00
291A	5.10	.00	78.00
291B	4.90	.20	32.00
292A	10.00	.20	32.00
292B	36.80	.20	69.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
293	93.60	.20	69.00
294	96.40	.20	69.00
295A	89.00	.20	56.00
295B	128.60	.20	69.00
210B	65.20	.20	56.00
211A	176.30	.20	56.00
231	8.80	.00	91.00
232	18.90	.00	91.00
233	36.70	.00	91.00
234	73.00	.00	91.00
235A	4.50	.00	78.00
235B	62.00	.00	91.00
241	10.00	.00	91.00
242	76.60	.00	91.00
243A	93.80	.00	91.00
243B	2.00	.00	86.00
233A	2.00	.00	86.00
233B	83.50	.00	91.00
201A	2.40	.00	86.00
201B	2.00	.00	91.00
202A	4.30	.00	86.00
202B	32.10	.00	91.00
235	38.60	.00	86.00
236A	2.20	.00	91.00
236B	9.80	.00	78.00
2.71	4.20	.00	86.00
272	24.20	.00	86.00
273A	28.70	.00	86.00
273B	8.70	.00	91.00
236	53.30	.00	91.00
237	2.00	.00	78.00
237B	36.30	.00	91.00
237C	63.40	.20	69.00
251	4.20	.00	91.00
252	8.10	.00	91.00
253A	55.10	.00	86.00
253B	13.70	.00	91.00
254	34.90	.00	86.00
255A	47.70	.00	86.00
255B	19.40	.00	91.00
230	3.00	.00	91.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 2.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
240A	5.00	.00	86.00
240B	11.00	.00	91.00
250A	26.60	.00	86.00
250B	1.00	.00	91.00
260	49.60	.00	86.00
255A	22.10	.00	86.00
255B	43.10	.00	91.00
237A	17.00	.00	91.00
237B	72.00	.20	69.00
238	129.50	.20	69.00
239	94.60	.20	69.00
211A	106.50	.20	56.00
211B	191.90	.20	69.00
212A	267.30	.20	56.00
212B	153.30	.20	69.00
213A	28.10	.20	56.00
213B	14.10	.20	69.00
214	63.40	.20	56.00
215A	106.50	.20	56.00
21	5.50	.20	56.00
22A	23.90	.20	56.00
22B	11.00	.20	69.00
23	20.30	.20	56.00
23B	66.00	.20	69.00
24	202.10	.20	69.00
25	81.70	.20	69.00
26A	62.20	.20	56.00
26B	89.30	.20	69.00
215B	7.30	.20	69.00
215C	83.60	.20	56.00
216	78.80	.20	56.00
217A	68.00	.20	56.00
217B	44.10	.20	69.00
281	3.00	.00	86.00
282	12.20	.00	86.00
283	51.90	.00	86.00
284A	63.30	.00	86.00
284B	10.70	.00	91.00
284C	11.40	.20	69.00
284D	169.00	.00	86.00
285A	6.40	.00	91.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
201	5.20	.00	91.00	98.20	.06
202	34.00	.00	91.00	98.20	.06
203A	27.50	.00	91.00	98.20	.06
203B	12.90	.00	78.00	92.80	.18
204A	6.00	.00	91.00	98.20	.06
204B	40.80	.00	78.00	92.80	.18
205A	156.10	.00	78.00	92.80	.18
205B	22.08	.00	32.00	52.00	.74
205B	5.52	1.00	98.00	98.00	.00
205B	27.60	.20			.59
205C	32.10	.00	91.00	98.20	.06
206A	49.50	.00	78.00	92.80	.18
206B	71.28	.00	32.00	52.00	.74
206B	17.82	1.00	98.00	98.00	.00
206B	89.10	.20			.59
206C	4.20	.00	91.00	98.20	.06
207A	120.48	.00	32.00	52.00	.74
207A	30.12	1.00	98.00	98.00	.00
207A	150.60	.20			.59
207B	26.40	.00	69.00	86.20	.29
207B	6.60	1.00	98.00	98.00	.00
207B	33.00	.20			.23
221	4.30	.00	91.00	98.20	.06
222A	44.80	.00	78.00	92.80	.18
222B	2.00	.00	91.00	98.20	.06
204	69.80	.00	78.00	92.80	.18
208A	8.08	.00	69.00	86.20	.29
208A	2.02	1.00	98.00	98.00	.00
208A	10.10	.20			.23
208B	70.56	.00	32.00	52.00	.74
208B	17.64	1.00	98.00	98.00	.00
208B	88.20	.20			.59
209A	28.00	.00	32.00	52.00	.74
209A	7.00	1.00	98.00	98.00	.00
209A	35.00	.20			.59
209B	40.32	.00	56.00	75.80	.42
209B	10.08	1.00	98.00	98.00	.00
209B	50.40	.20			.34
209C	28.24	.00	69.00	86.20	.29
209C	7.06	1.00	98.00	98.00	.00
209C	35.30	.20			.23

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
261	4.20	.00	78.00	92.80	.18
262A	13.80	.00	78.00	92.80	.18
262B	22.72	.00	32.00	52.00	.74
262B	5.68	1.00	98.00	98.00	.00
262B	28.40	.20			.59
263A	8.20	.00	78.00	92.80	.18
263B	29.36	.00	32.00	52.00	.74
263B	7.34	1.00	98.00	98.00	.00
263B	36.70	.20			.59
263C	37.52	.00	69.00	86.20	.29
263C	9.38	1.00	98.00	98.00	.00
263C	46.90	.20			.23
264A	2.80	.00	32.00	52.00	.74
264A	.70	1.00	98.00	98.00	.00
264A	3.50	.20			.59
264B	71.04	.00	69.00	86.20	.29
264B	17.76	1.00	98.00	98.00	.00
264B	88.80	.20			.23
265A	28.80	.00	32.00	52.00	.74
265A	7.20	1.00	98.00	98.00	.00
265A	36.00	.20			.59
265B	56.48	.00	69.00	86.20	.29
265B	14.12	1.00	98.00	98.00	.00
265B	70.60	.20			.23
209D	16.00	.00	32.00	52.00	.74
209D	4.00	1.00	98.00	98.00	.00
209D	20.00	.20			.59
209E	32.08	.00	56.00	75.80	.42
209E	8.02	1.00	98.00	98.00	.00
209E	40.10	.20			.34
209F	98.88	.00	69.00	86.20	.29
209F	24.72	1.00	98.00	98.00	.00
209F	123.60	.20			.23
210	57.92	.00	56.00	75.80	.42
210	14.48	1.00	98.00	98.00	.00
210	72.40	.20			.34
291A	5.10	.00	78.00	92.80	.18
291B	3.92	.00	32.00	52.00	.74
291B	.98	1.00	98.00	98.00	.00
291B	4.90	.20			.59
292A	8.00	.00	32.00	52.00	.74

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
292A	2.00	1.00	98.00	98.00	.00
292A	10.00	.20			.59
292B	29.44	.00	69.00	86.20	.29
292B	7.36	1.00	98.00	98.00	.00
292B	36.80	.20			.23
293	74.88	.00	69.00	86.20	.29
293	18.72	1.00	98.00	98.00	.00
293	93.60	.20			.23
294	77.12	.00	69.00	86.20	.29
294	19.28	1.00	98.00	98.00	.00
294	96.40	.20			.23
295A	71.20	.00	56.00	75.80	.42
295A	17.80	1.00	98.00	98.00	.00
295A	89.00	.20			.34
295B	102.88	.00	69.00	86.20	.29
295B	25.72	1.00	98.00	98.00	.00
295B	128.60	.20			.23
210B	52.16	.00	56.00	75.80	.42
210B	13.04	1.00	98.00	98.00	.00
210B	65.20	.20			.34
211A	141.04	.00	56.00	75.80	.42
211A	35.26	1.00	98.00	98.00	.00
211A	176.30	.20			.34
231	8.80	.00	91.00	98.20	.06
232	18.90	.00	91.00	98.20	.06
233	36.70	.00	91.00	98.20	.06
234	73.00	.00	91.00	98.20	.06
235A	4.50	.00	78.00	92.80	.18
235B	62.00	.00	91.00	98.20	.06
241	10.00	.00	91.00	98.20	.06
242	76.60	.00	91.00	98.20	.06
243A	93.80	.00	91.00	98.20	.06
243B	2.00	.00	86.00	97.20	.11
233A	2.00	.00	86.00	97.20	.11
233B	83.50	.00	91.00	98.20	.06
201A	2.40	.00	86.00	97.20	.11
201B	2.00	.00	91.00	98.20	.06
202A	4.30	.00	86.00	97.20	.11
202B	32.10	.00	91.00	98.20	.06
235	38.60	.00	86.00	97.20	.11
236A	2.20	.00	91.00	98.20	.06

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
236B	9.80	.00	78.00	92.80	.18
2.71	4.20	.00	86.00	97.20	.11
272	24.20	.00	86.00	97.20	.11
273A	28.70	.00	86.00	97.20	.11
273B	8.70	.00	91.00	98.20	.06
236	53.30	.00	91.00	98.20	.06
237	2.00	.00	78.00	92.80	.18
237B	36.30	.00	91.00	98.20	.06
237C	50.72	.00	69.00	86.20	.29
237C	12.68	1.00	98.00	98.00	.00
237C	63.40	.20			.23
251	4.20	.00	91.00	98.20	.06
252	8.10	.00	91.00	98.20	.06
253A	55.10	.00	86.00	97.20	.11
253B	13.70	.00	91.00	98.20	.06
254	34.90	.00	86.00	97.20	.11
255A	47.70	.00	86.00	97.20	.11
255B	19.40	.00	91.00	98.20	.06
230	3.00	.00	91.00	98.20	.06
240A	5.00	.00	86.00	97.20	.11
240B	11.00	.00	91.00	98.20	.06
250A	26.60	.00	86.00	97.20	.11
250B	1.00	.00	91.00	98.20	.06
260	49.60	.00	86.00	97.20	.11
255A	22.10	.00	86.00	97.20	.11
255B	43.10	.00	91.00	98.20	.06
237A	17.00	.00	91.00	98.20	.06
237B	57.60	.00	69.00	86.20	.29
237B	14.40	1.00	98.00	98.00	.00
237B	72.00	.20			.23
238	103.60	.00	69.00	86.20	.29
238	25.90	1.00	98.00	98.00	.00
238	129.50	.20			.23
239	75.68	.00	69.00	86.20	.29
239	18.92	1.00	98.00	98.00	.00
239	94.60	.20			.23
211A	85.20	.00	56.00	75.80	.42
211A	21.30	1.00	98.00	98.00	.00
211A	106.50	.20			.34
211B	153.52	.00	69.00	86.20	.29
211B	38.38	1.00	98.00	98.00	.00
211B	191.90	.20			.23

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
212A	213.84	.00	56.00	75.80	.42
212A	53.46	1.00	98.00	98.00	.00
212A	267.30	.20			.34
212B	122.64	.00	69.00	86.20	.29
212B	30.66	1.00	98.00	98.00	.00
212B	153.30	.20			.23
213A	22.48	.00	56.00	75.80	.42
213A	5.62	1.00	98.00	98.00	.00
213A	28.10	.20			.34
213B	11.28	.00	69.00	86.20	.29
213B	2.82	1.00	98.00	98.00	.00
213B	14.10	.20			.23
214	50.72	.00	56.00	75.80	.42
214	12.68	1.00	98.00	98.00	.00
214	63.40	.20			.34
215A	85.20	.00	56.00	75.80	.42
215A	21.30	1.00	98.00	98.00	.00
215A	106.50	.20			.34
21	4.40	.00	56.00	75.80	.42
21	1.10	1.00	98.00	98.00	.00
21	5.50	.20			.34
22A	19.12	.00	56.00	75.80	.42
22A	4.78	1.00	98.00	98.00	.00
22A	23.90	.20			.34
22B	8.80	.00	69.00	86.20	.29
22B	2.20	1.00	98.00	98.00	.00
22B	11.00	.20			.23
23	16.24	.00	56.00	75.80	.42
23	4.06	1.00	98.00	98.00	.00
23	20.30	.20			.34
23B	52.80	.00	69.00	86.20	.29
23B	13.20	1.00	98.00	98.00	.00
23B	66.00	.20			.23
24	161.68	.00	69.00	86.20	.29
24	40.42	1.00	98.00	98.00	.00
24	202.10	.20			.23
25	65.36	.00	69.00	86.20	.29
25	16.34	1.00	98.00	98.00	.00
25	81.70	.20			.23
26A	49.76	.00	56.00	75.80	.42
26A	12.44	1.00	98.00	98.00	.00
26A	62.20	.20			.34

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 2.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
26B	71.44	.00	69.00	86.20	.29
26B	17.86	1.00	98.00	98.00	.00
26B	89.30	.20			.23
215B	5.84	.00	69.00	86.20	.29
215B	1.46	1.00	98.00	98.00	.00
215B	7.30	.20			.23
215C	66.88	.00	56.00	75.80	.42
215C	16.72	1.00	98.00	98.00	.00
215C	83.60	.20			.34
216	63.04	.00	56.00	75.80	.42
216	15.76	1.00	98.00	98.00	.00
216	78.80	.20			.34
217A	54.40	.00	56.00	75.80	.42
217A	13.60	1.00	98.00	98.00	.00
217A	68.00	.20			.34
217B	35.28	.00	69.00	86.20	.29
217B	8.82	1.00	98.00	98.00	.00
217B	44.10	.20			.23
281	3.00	.00	86.00	97.20	.11
282	12.20	.00	86.00	97.20	.11
283	51.90	.00	86.00	97.20	.11
284A	63.30	.00	86.00	97.20	.11
284B	10.70	.00	91.00	98.20	.06
284C	9.12	.00	69.00	86.20	.29
284C	2.28	1.00	98.00	98.00	.00
284C	11.40	.20			.23
284D	169.00	.00	86.00	97.20	.11
285A	6.40	.00	91.00	98.20	.06

WATERSHED 2, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	5852.00
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.246
LOW LOSS FRACTION (Y BAR)	=	.279

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
201	5.20	.00	91.00
202	34.00	.00	91.00
203A	27.50	.00	91.00
203B	12.90	.00	78.00
204A	6.00	.00	91.00
204B	40.80	.00	78.00
205A	156.10	.00	78.00
205B	27.60	.20	32.00
205C	32.10	.00	91.00
206A	49.50	.00	78.00
206B	89.10	.20	32.00
206C	4.20	.00	91.00
207A	150.60	.20	32.00
207B	33.00	.20	69.00
221	4.30	.00	91.00
222A	44.80	.00	78.00
222B	2.00	.00	91.00
204	69.80	.00	78.00
208A	10.10	.20	69.00
208B	88.20	.20	32.00
209A	35.00	.20	32.00
209B	50.40	.20	56.00
209C	35.30	.20	69.00
261	4.20	.00	78.00
262A	13.80	.00	78.00
262B	28.40	.20	32.00
263A	8.20	.00	78.00
263B	36.70	.20	32.00
263C	46.90	.20	69.00
264A	3.50	.20	32.00
264B	88.80	.20	69.00
265A	36.00	.20	32.00
265B	70.60	.20	69.00
209D	20.00	.20	32.00
209E	40.10	.20	56.00
209F	123.60	.20	69.00
210	72.40	.20	56.00
291A	5.10	.00	78.00
291B	4.90	.20	32.00
292A	10.00	.20	32.00
292B	36.80	.20	69.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
293	93.60	.20	69.00
294	96.40	.20	69.00
295A	89.00	.20	56.00
295B	128.60	.20	69.00
210B	65.20	.20	56.00
211A	176.30	.20	56.00
231	8.80	.00	91.00
232	18.90	.00	91.00
233	36.70	.00	91.00
234	73.00	.00	91.00
235A	4.50	.00	78.00
235B	62.00	.00	91.00
241	10.00	.00	91.00
242	76.60	.00	91.00
243A	93.80	.00	91.00
243B	2.00	.00	86.00
233A	2.00	.00	86.00
233B	83.50	.00	91.00
201A	2.40	.00	86.00
201B	2.00	.00	91.00
202A	4.30	.00	86.00
202B	32.10	.00	91.00
235	38.60	.00	86.00
236A	2.20	.00	91.00
236B	9.80	.00	78.00
2.71	4.20	.00	86.00
272	24.20	.00	86.00
273A	28.70	.00	86.00
273B	8.70	.00	91.00
236	53.30	.00	91.00
237	2.00	.00	78.00
237B	36.30	.00	91.00
237C	63.40	.20	69.00
251	4.20	.00	91.00
252	8.10	.00	91.00
253A	55.10	.00	86.00
253B	13.70	.00	91.00
254	34.90	.00	86.00
255A	47.70	.00	86.00
255B	19.40	.00	91.00
230	3.00	.00	91.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
240A	5.00	.00	86.00
240B	11.00	.00	91.00
250A	26.60	.00	86.00
250B	1.00	.00	91.00
260	49.60	.00	86.00
255A	22.10	.00	86.00
255B	43.10	.00	91.00
237A	17.00	.00	91.00
237B	72.00	.20	69.00
238	129.50	.20	69.00
239	94.60	.20	69.00
211A	106.50	.20	56.00
211B	191.90	.20	69.00
212A	267.30	.20	56.00
212B	153.30	.20	69.00
213A	28.10	.20	56.00
213B	14.10	.20	69.00
214	63.40	.20	56.00
215A	106.50	.20	56.00
21	5.50	.20	56.00
22A	23.90	.20	56.00
22B	11.00	.20	69.00
23	20.30	.20	56.00
23B	66.00	.20	69.00
24	202.10	.20	69.00
25	81.70	.20	69.00
26A	62.20	.20	56.00
26B	89.30	.20	69.00
215B	7.30	.20	69.00
215C	83.60	.20	56.00
216	78.80	.20	56.00
217A	68.00	.20	56.00
217B	44.10	.20	69.00
281	3.00	.00	86.00
282	12.20	.00	86.00
283	51.90	.00	86.00
284A	63.30	.00	86.00
284B	10.70	.00	91.00
284C	11.40	.20	69.00
284D	169.00	.00	86.00
285A	6.40	.00	91.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
285B	92.80	.20	69.00
286A	16.50	.00	86.00
286B	720.00	.20	69.00
287A	154.70	.20	56.00
287B	40.20	.20	69.00
288	316.80	.20	56.00
289	258.90	.20	56.00
217A	202.10	.20	56.00
217B	18.20	.20	69.00
117A	75.60	.30	56.00
117B	68.90	.30	69.00
117C	6.10	.15	65.00

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
201	5.20	.00	91.00	98.20	.06
202	34.00	.00	91.00	98.20	.06
203A	27.50	.00	91.00	98.20	.06
203B	12.90	.00	78.00	92.80	.18
204A	6.00	.00	91.00	98.20	.06
204B	40.80	.00	78.00	92.80	.18
205A	156.10	.00	78.00	92.80	.18
205B	22.08	.00	32.00	52.00	.74
205B	5.52	1.00	98.00	98.00	.00
205B	27.60	.20			.59
205C	32.10	.00	91.00	98.20	.06
206A	49.50	.00	78.00	92.80	.18
206B	71.28	.00	32.00	52.00	.74
206B	17.82	1.00	98.00	98.00	.00
206B	89.10	.20			.59
206C	4.20	.00	91.00	98.20	.06
207A	120.48	.00	32.00	52.00	.74
207A	30.12	1.00	98.00	98.00	.00
207A	150.60	.20			.59
207B	26.40	.00	69.00	86.20	.29
207B	6.60	1.00	98.00	98.00	.00
207B	33.00	.20			.23
221	4.30	.00	91.00	98.20	.06
222A	44.80	.00	78.00	92.80	.18
222B	2.00	.00	91.00	98.20	.06
204	69.80	.00	78.00	92.80	.18
208A	8.08	.00	69.00	86.20	.29
208A	2.02	1.00	98.00	98.00	.00
208A	10.10	.20			.23
208B	70.56	.00	32.00	52.00	.74
208B	17.64	1.00	98.00	98.00	.00
208B	88.20	.20			.59
209A	28.00	.00	32.00	52.00	.74
209A	7.00	1.00	98.00	98.00	.00
209A	35.00	.20			.59
209B	40.32	.00	56.00	75.80	.42
209B	10.08	1.00	98.00	98.00	.00
209B	50.40	.20			.34
209C	28.24	.00	69.00	86.20	.29
209C	7.06	1.00	98.00	98.00	.00
209C	35.30	.20			.23

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
261	4.20	.00	78.00	92.80	.18
262A	13.80	.00	78.00	92.80	.18
262B	22.72	.00	32.00	52.00	.74
262B	5.68	1.00	98.00	98.00	.00
262B	28.40	.20			.59
263A	8.20	.00	78.00	92.80	.18
263B	29.36	.00	32.00	52.00	.74
263B	7.34	1.00	98.00	98.00	.00
263B	36.70	.20			.59
263C	37.52	.00	69.00	86.20	.29
263C	9.38	1.00	98.00	98.00	.00
263C	46.90	.20			.23
264A	2.80	.00	32.00	52.00	.74
264A	.70	1.00	98.00	98.00	.00
264A	3.50	.20			.59
264B	71.04	.00	69.00	86.20	.29
264B	17.76	1.00	98.00	98.00	.00
264B	88.80	.20			.23
265A	28.80	.00	32.00	52.00	.74
265A	7.20	1.00	98.00	98.00	.00
265A	36.00	.20			.59
265B	56.48	.00	69.00	86.20	.29
265B	14.12	1.00	98.00	98.00	.00
265B	70.60	.20			.23
209D	16.00	.00	32.00	52.00	.74
209D	4.00	1.00	98.00	98.00	.00
209D	20.00	.20			.59
209E	32.08	.00	56.00	75.80	.42
209E	8.02	1.00	98.00	98.00	.00
209E	40.10	.20			.34
209F	98.88	.00	69.00	86.20	.29
209F	24.72	1.00	98.00	98.00	.00
209F	123.60	.20			.23
210	57.92	.00	56.00	75.80	.42
210	14.48	1.00	98.00	98.00	.00
210	72.40	.20			.34
291A	5.10	.00	78.00	92.80	.18
291B	3.92	.00	32.00	52.00	.74
291B	.98	1.00	98.00	98.00	.00
291B	4.90	.20			.59
292A	8.00	.00	32.00	52.00	.74

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
292A	2.00	1.00	98.00	98.00	.00
292A	10.00	.20			.59
292B	29.44	.00	69.00	86.20	.29
292B	7.36	1.00	98.00	98.00	.00
292B	36.80	.20			.23
293	74.88	.00	69.00	86.20	.29
293	18.72	1.00	98.00	98.00	.00
293	93.60	.20			.23
294	77.12	.00	69.00	86.20	.29
294	19.28	1.00	98.00	98.00	.00
294	96.40	.20			.23
295A	71.20	.00	56.00	75.80	.42
295A	17.80	1.00	98.00	98.00	.00
295A	89.00	.20			.34
295B	102.88	.00	69.00	86.20	.29
295B	25.72	1.00	98.00	98.00	.00
295B	128.60	.20			.23
210B	52.16	.00	56.00	75.80	.42
210B	13.04	1.00	98.00	98.00	.00
210B	65.20	.20			.34
211A	141.04	.00	56.00	75.80	.42
211A	35.26	1.00	98.00	98.00	.00
211A	176.30	.20			.34
231	8.80	.00	91.00	98.20	.06
232	18.90	.00	91.00	98.20	.06
233	36.70	.00	91.00	98.20	.06
234	73.00	.00	91.00	98.20	.06
235A	4.50	.00	78.00	92.80	.18
235B	62.00	.00	91.00	98.20	.06
241	10.00	.00	91.00	98.20	.06
242	76.60	.00	91.00	98.20	.06
243A	93.80	.00	91.00	98.20	.06
243B	2.00	.00	86.00	97.20	.11
233A	2.00	.00	86.00	97.20	.11
233B	83.50	.00	91.00	98.20	.06
201A	2.40	.00	86.00	97.20	.11
201B	2.00	.00	91.00	98.20	.06
202A	4.30	.00	86.00	97.20	.11
202B	32.10	.00	91.00	98.20	.06
235	38.60	.00	86.00	97.20	.11
236A	2.20	.00	91.00	98.20	.06

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
236B	9.80	.00	78.00	92.80	.18
2.71	4.20	.00	86.00	97.20	.11
272	24.20	.00	86.00	97.20	.11
273A	28.70	.00	86.00	97.20	.11
273B	8.70	.00	91.00	98.20	.06
236	53.30	.00	91.00	98.20	.06
237	2.00	.00	78.00	92.80	.18
237B	36.30	.00	91.00	98.20	.06
237C	50.72	.00	69.00	86.20	.29
237C	12.68	1.00	98.00	98.00	.00
237C	63.40	.20			.23
251	4.20	.00	91.00	98.20	.06
252	8.10	.00	91.00	98.20	.06
253A	55.10	.00	86.00	97.20	.11
253B	13.70	.00	91.00	98.20	.06
254	34.90	.00	86.00	97.20	.11
255A	47.70	.00	86.00	97.20	.11
255B	19.40	.00	91.00	98.20	.06
230	3.00	.00	91.00	98.20	.06
240A	5.00	.00	86.00	97.20	.11
240B	11.00	.00	91.00	98.20	.06
250A	26.60	.00	86.00	97.20	.11
250B	1.00	.00	91.00	98.20	.06
260	49.60	.00	86.00	97.20	.11
255A	22.10	.00	86.00	97.20	.11
255B	43.10	.00	91.00	98.20	.06
237A	17.00	.00	91.00	98.20	.06
237B	57.60	.00	69.00	86.20	.29
237B	14.40	1.00	98.00	98.00	.00
237B	72.00	.20			.23
238	103.60	.00	69.00	86.20	.29
238	25.90	1.00	98.00	98.00	.00
238	129.50	.20			.23
239	75.68	.00	69.00	86.20	.29
239	18.92	1.00	98.00	98.00	.00
239	94.60	.20			.23
211A	85.20	.00	56.00	75.80	.42
211A	21.30	1.00	98.00	98.00	.00
211A	106.50	.20			.34
211B	153.52	.00	69.00	86.20	.29
211B	38.38	1.00	98.00	98.00	.00
211B	191.90	.20			.23

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
212A	213.84	.00	56.00	75.80	.42
212A	53.46	1.00	98.00	98.00	.00
212A	267.30	.20			.34
212B	122.64	.00	69.00	86.20	.29
212B	30.66	1.00	98.00	98.00	.00
212B	153.30	.20			.23
213A	22.48	.00	56.00	75.80	.42
213A	5.62	1.00	98.00	98.00	.00
213A	28.10	.20			.34
213B	11.28	.00	69.00	86.20	.29
213B	2.82	1.00	98.00	98.00	.00
213B	14.10	.20			.23
214	50.72	.00	56.00	75.80	.42
214	12.68	1.00	98.00	98.00	.00
214	63.40	.20			.34
215A	85.20	.00	56.00	75.80	.42
215A	21.30	1.00	98.00	98.00	.00
215A	106.50	.20			.34
21	4.40	.00	56.00	75.80	.42
21	1.10	1.00	98.00	98.00	.00
21	5.50	.20			.34
22A	19.12	.00	56.00	75.80	.42
22A	4.78	1.00	98.00	98.00	.00
22A	23.90	.20			.34
22B	8.80	.00	69.00	86.20	.29
22B	2.20	1.00	98.00	98.00	.00
22B	11.00	.20			.23
23	16.24	.00	56.00	75.80	.42
23	4.06	1.00	98.00	98.00	.00
23	20.30	.20			.34
23B	52.80	.00	69.00	86.20	.29
23B	13.20	1.00	98.00	98.00	.00
23B	66.00	.20			.23
24	161.68	.00	69.00	86.20	.29
24	40.42	1.00	98.00	98.00	.00
24	202.10	.20			.23
25	65.36	.00	69.00	86.20	.29
25	16.34	1.00	98.00	98.00	.00
25	81.70	.20			.23
26A	49.76	.00	56.00	75.80	.42
26A	12.44	1.00	98.00	98.00	.00
26A	62.20	.20			.34

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
26B	71.44	.00	69.00	86.20	.29
26B	17.86	1.00	98.00	98.00	.00
26B	89.30	.20			.23
215B	5.84	.00	69.00	86.20	.29
215B	1.46	1.00	98.00	98.00	.00
215B	7.30	.20			.23
215C	66.88	.00	56.00	75.80	.42
215C	16.72	1.00	98.00	98.00	.00
215C	83.60	.20			.34
216	63.04	.00	56.00	75.80	.42
216	15.76	1.00	98.00	98.00	.00
216	78.80	.20			.34
217A	54.40	.00	56.00	75.80	.42
217A	13.60	1.00	98.00	98.00	.00
217A	68.00	.20			.34
217B	35.28	.00	69.00	86.20	.29
217B	8.82	1.00	98.00	98.00	.00
217B	44.10	.20			.23
281	3.00	.00	86.00	97.20	.11
282	12.20	.00	86.00	97.20	.11
283	51.90	.00	86.00	97.20	.11
284A	63.30	.00	86.00	97.20	.11
284B	10.70	.00	91.00	98.20	.06
284C	9.12	.00	69.00	86.20	.29
284C	2.28	1.00	98.00	98.00	.00
284C	11.40	.20			.23
284D	169.00	.00	86.00	97.20	.11
285A	6.40	.00	91.00	98.20	.06
285B	74.24	.00	69.00	86.20	.29
285B	18.56	1.00	98.00	98.00	.00
285B	92.80	.20			.23
286A	16.50	.00	86.00	97.20	.11
286B	576.00	.00	69.00	86.20	.29
286B	144.00	1.00	98.00	98.00	.00
286B	720.00	.20			.23
287A	123.76	.00	56.00	75.80	.42
287A	30.94	1.00	98.00	98.00	.00
287A	154.70	.20			.34
287B	32.16	.00	69.00	86.20	.29
287B	8.04	1.00	98.00	98.00	.00
287B	40.20	.20			.23

WATERSHED 2, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.17

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
288	253.44	.00	56.00	75.80	.42
288	63.36	1.00	98.00	98.00	.00
288	316.80	.20			.34
289	207.12	.00	56.00	75.80	.42
289	51.78	1.00	98.00	98.00	.00
289	258.90	.20			.34
217A	161.68	.00	56.00	75.80	.42
217A	40.42	1.00	98.00	98.00	.00
217A	202.10	.20			.34
217B	14.56	.00	69.00	86.20	.29
217B	3.64	1.00	98.00	98.00	.00
217B	18.20	.20			.23
117A	52.92	.00	56.00	75.80	.42
117A	22.68	1.00	98.00	98.00	.00
117A	75.60	.30			.29
117B	48.23	.00	69.00	86.20	.29
117B	20.67	1.00	98.00	98.00	.00
117B	68.90	.30			.20
117C	5.18	.00	65.00	83.00	.31
117C	.92	1.00	98.00	98.00	.00
117C	6.10	.15			.27

WATERSHED 2, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	7822.80
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.255
LOW LOSS FRACTION (Y BAR)	=	.294

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 3.07

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
301	3.00	.20	69.00
302	16.80	.20	32.00
303A	62.50	.20	69.00
303B	4.90	.20	69.00
304A	75.30	.20	69.00
304B	12.54	.20	32.00
304C	2.75	.20	56.00
305A	5.00	.20	56.00
305B	73.00	.20	69.00
306A	43.10	.20	56.00
306B	73.50	.20	69.00
307	312.20	.20	69.00

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 3.07

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
301	2.40	.00	69.00	86.20	.29
301	.60	1.00	98.00	98.00	.00
301	3.00	.20			.23
302	13.44	.00	32.00	52.00	.74
302	3.36	1.00	98.00	98.00	.00
302	16.80	.20			.59
303A	50.00	.00	69.00	86.20	.29
303A	12.50	1.00	98.00	98.00	.00
303A	62.50	.20			.23
303B	3.92	.00	69.00	86.20	.29
303B	.98	1.00	98.00	98.00	.00
303B	4.90	.20			.23
304A	60.24	.00	69.00	86.20	.29
304A	15.06	1.00	98.00	98.00	.00
304A	75.30	.20			.23
304B	10.03	.00	32.00	52.00	.74
304B	2.51	1.00	98.00	98.00	.00
304B	12.54	.20			.59
304C	2.20	.00	56.00	75.80	.42
304C	.55	1.00	98.00	98.00	.00
304C	2.75	.20			.34
305A	4.00	.00	56.00	75.80	.42
305A	1.00	1.00	98.00	98.00	.00
305A	5.00	.20			.34
305B	58.40	.00	69.00	86.20	.29
305B	14.60	1.00	98.00	98.00	.00
305B	73.00	.20			.23
306A	34.48	.00	56.00	75.80	.42
306A	8.62	1.00	98.00	98.00	.00
306A	43.10	.20			.34
306B	58.80	.00	69.00	86.20	.29
306B	14.70	1.00	98.00	98.00	.00
306B	73.50	.20			.23
307	249.76	.00	69.00	86.20	.29
307	62.44	1.00	98.00	98.00	.00
307	312.20	.20			.23

WATERSHED 3, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	684.59
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.253
LOW LOSS FRACTION (Y BAR)	=	.292

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 3.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
301	3.00	.20	69.00
302	16.80	.20	32.00
303A	62.50	.20	69.00
303B	4.90	.20	69.00
304A	75.30	.20	69.00
304B	12.54	.20	32.00
304C	2.75	.20	56.00
305A	5.00	.20	56.00
305B	73.00	.20	69.00
306A	43.10	.20	56.00
306B	73.50	.20	69.00
307	312.20	.20	69.00
308	52.30	.20	69.00
309A	76.20	.20	56.00
309B	41.30	.20	69.00
310	101.10	.20	56.00

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 3.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
301	2.40	.00	69.00	86.20	.29
301	.60	1.00	98.00	98.00	.00
301	3.00	.20			.23
302	13.44	.00	32.00	52.00	.74
302	3.36	1.00	98.00	98.00	.00
302	16.80	.20			.59
303A	50.00	.00	69.00	86.20	.29
303A	12.50	1.00	98.00	98.00	.00
303A	62.50	.20			.23
303B	3.92	.00	69.00	86.20	.29
303B	.98	1.00	98.00	98.00	.00
303B	4.90	.20			.23
304A	60.24	.00	69.00	86.20	.29
304A	15.06	1.00	98.00	98.00	.00
304A	75.30	.20			.23
304B	10.03	.00	32.00	52.00	.74
304B	2.51	1.00	98.00	98.00	.00
304B	12.54	.20			.59
304C	2.20	.00	56.00	75.80	.42
304C	.55	1.00	98.00	98.00	.00
304C	2.75	.20			.34
305A	4.00	.00	56.00	75.80	.42
305A	1.00	1.00	98.00	98.00	.00
305A	5.00	.20			.34
305B	58.40	.00	69.00	86.20	.29
305B	14.60	1.00	98.00	98.00	.00
305B	73.00	.20			.23
306A	34.48	.00	56.00	75.80	.42
306A	8.62	1.00	98.00	98.00	.00
306A	43.10	.20			.34
306B	58.80	.00	69.00	86.20	.29
306B	14.70	1.00	98.00	98.00	.00
306B	73.50	.20			.23
307	249.76	.00	69.00	86.20	.29
307	62.44	1.00	98.00	98.00	.00
307	312.20	.20			.23
308	41.84	.00	69.00	86.20	.29
308	10.46	1.00	98.00	98.00	.00
308	52.30	.20			.23
309A	60.96	.00	56.00	75.80	.42
309A	15.24	1.00	98.00	98.00	.00
309A	76.20	.20			.34

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 3.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
309B	33.04	.00	69.00	86.20	.29
309B	8.26	1.00	98.00	98.00	.00
309B	41.30	.20			.23
310	80.88	.00	56.00	75.80	.42
310	20.22	1.00	98.00	98.00	.00
310	101.10	.20			.34

WATERSHED 3, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	955.49
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.266
LOW LOSS FRACTION (Y BAR)	=	.312

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 312

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
301	3.00	.20	69.00
302	16.80	.20	32.00
303A	62.50	.20	69.00
303B	4.90	.20	69.00
304A	75.30	.20	69.00
304B	12.54	.20	32.00
304C	2.75	.20	56.00
305A	5.00	.20	56.00
305B	73.00	.20	69.00
306A	43.10	.20	56.00
306B	73.50	.20	69.00
307	312.20	.20	69.00
308	52.30	.20	69.00
309A	76.20	.20	56.00
309B	41.30	.20	69.00
310	101.10	.20	56.00
312A	220.70	.20	56.00
312A	104.70	.20	56.00
312B	206.60	.20	69.00

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 312

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
301	2.40	.00	69.00	86.20	.29
301	.60	1.00	98.00	98.00	.00
301	3.00	.20			.23
302	13.44	.00	32.00	52.00	.74
302	3.36	1.00	98.00	98.00	.00
302	16.80	.20			.59
303A	50.00	.00	69.00	86.20	.29
303A	12.50	1.00	98.00	98.00	.00
303A	62.50	.20			.23
303B	3.92	.00	69.00	86.20	.29
303B	.98	1.00	98.00	98.00	.00
303B	4.90	.20			.23
304A	60.24	.00	69.00	86.20	.29
304A	15.06	1.00	98.00	98.00	.00
304A	75.30	.20			.23
304B	10.03	.00	32.00	52.00	.74
304B	2.51	1.00	98.00	98.00	.00
304B	12.54	.20			.59
304C	2.20	.00	56.00	75.80	.42
304C	.55	1.00	98.00	98.00	.00
304C	2.75	.20			.34
305A	4.00	.00	56.00	75.80	.42
305A	1.00	1.00	98.00	98.00	.00
305A	5.00	.20			.34
305B	58.40	.00	69.00	86.20	.29
305B	14.60	1.00	98.00	98.00	.00
305B	73.00	.20			.23
306A	34.48	.00	56.00	75.80	.42
306A	8.62	1.00	98.00	98.00	.00
306A	43.10	.20			.34
306B	58.80	.00	69.00	86.20	.29
306B	14.70	1.00	98.00	98.00	.00
306B	73.50	.20			.23
307	249.76	.00	69.00	86.20	.29
307	62.44	1.00	98.00	98.00	.00
307	312.20	.20			.23
308	41.84	.00	69.00	86.20	.29
308	10.46	1.00	98.00	98.00	.00
308	52.30	.20			.23
309A	60.96	.00	56.00	75.80	.42
309A	15.24	1.00	98.00	98.00	.00
309A	76.20	.20			.34

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 312

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
309B	33.04	.00	69.00	86.20	.29
309B	8.26	1.00	98.00	98.00	.00
309B	41.30	.20			.23
310	80.88	.00	56.00	75.80	.42
310	20.22	1.00	98.00	98.00	.00
310	101.10	.20			.34
312A	176.56	.00	56.00	75.80	.42
312A	44.14	1.00	98.00	98.00	.00
312A	220.70	.20			.34
312A	83.76	.00	56.00	75.80	.42
312A	20.94	1.00	98.00	98.00	.00
312A	104.70	.20			.34
312B	165.28	.00	69.00	86.20	.29
312B	41.32	1.00	98.00	98.00	.00
312B	206.60	.20			.23

WATERSHED 3, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1487.49
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.276
LOW LOSS FRACTION (Y BAR)	=	.329

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
301	3.00	.20	69.00
302	16.80	.20	32.00
303A	62.50	.20	69.00
303B	4.90	.20	69.00
304A	75.30	.20	69.00
304B	12.54	.20	32.00
304C	2.75	.20	56.00
305A	5.00	.20	56.00
305B	73.00	.20	69.00
306A	43.10	.20	56.00
306B	73.50	.20	69.00
307	312.20	.20	69.00
308	52.30	.20	69.00
309A	76.20	.20	56.00
309B	41.30	.20	69.00
310	101.10	.20	56.00
312A	220.70	.20	56.00
312A	104.70	.20	56.00
312B	206.60	.20	69.00
413A	3.50	.15	77.00
413B	155.00	.30	69.00

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
301	2.40	.00	69.00	86.20	.29
301	.60	1.00	98.00	98.00	.00
301	3.00	.20			.23
302	13.44	.00	32.00	52.00	.74
302	3.36	1.00	98.00	98.00	.00
302	16.80	.20			.59
303A	50.00	.00	69.00	86.20	.29
303A	12.50	1.00	98.00	98.00	.00
303A	62.50	.20			.23
303B	3.92	.00	69.00	86.20	.29
303B	.98	1.00	98.00	98.00	.00
303B	4.90	.20			.23
304A	60.24	.00	69.00	86.20	.29
304A	15.06	1.00	98.00	98.00	.00
304A	75.30	.20			.23
304B	10.03	.00	32.00	52.00	.74
304B	2.51	1.00	98.00	98.00	.00
304B	12.54	.20			.59
304C	2.20	.00	56.00	75.80	.42
304C	.55	1.00	98.00	98.00	.00
304C	2.75	.20			.34
305A	4.00	.00	56.00	75.80	.42
305A	1.00	1.00	98.00	98.00	.00
305A	5.00	.20			.34
305B	58.40	.00	69.00	86.20	.29
305B	14.60	1.00	98.00	98.00	.00
305B	73.00	.20			.23
306A	34.48	.00	56.00	75.80	.42
306A	8.62	1.00	98.00	98.00	.00
306A	43.10	.20			.34
306B	58.80	.00	69.00	86.20	.29
306B	14.70	1.00	98.00	98.00	.00
306B	73.50	.20			.23
307	249.76	.00	69.00	86.20	.29
307	62.44	1.00	98.00	98.00	.00
307	312.20	.20			.23
308	41.84	.00	69.00	86.20	.29
308	10.46	1.00	98.00	98.00	.00
308	52.30	.20			.23
309A	60.96	.00	56.00	75.80	.42
309A	15.24	1.00	98.00	98.00	.00
309A	76.20	.20			.34

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
309B	33.04	.00	69.00	86.20	.29
309B	8.26	1.00	98.00	98.00	.00
309B	41.30	.20			.23
310	80.88	.00	56.00	75.80	.42
310	20.22	1.00	98.00	98.00	.00
310	101.10	.20			.34
312A	176.56	.00	56.00	75.80	.42
312A	44.14	1.00	98.00	98.00	.00
312A	220.70	.20			.34
312A	83.76	.00	56.00	75.80	.42
312A	20.94	1.00	98.00	98.00	.00
312A	104.70	.20			.34
312B	165.28	.00	69.00	86.20	.29
312B	41.32	1.00	98.00	98.00	.00
312B	206.60	.20			.23
413A	2.97	.00	77.00	92.20	.19
413A	.53	1.00	98.00	98.00	.00
413A	3.50	.15			.16
413B	108.50	.00	69.00	86.20	.29
413B	46.50	1.00	98.00	98.00	.00
413B	155.00	.30			.20

WATERSHED 3, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1645.99
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.269
LOW LOSS FRACTION (Y BAR)	=	.320

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 4, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 4.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
401	3.00	.20	32.00
402	24.80	.20	32.00
403	53.00	.20	32.00
404A	35.80	.20	32.00
404B	21.10	.20	69.00
405A	9.10	.20	32.00
405B	119.40	.20	69.00
406	64.30	.20	69.00
407	202.00	.20	69.00
408	81.70	.20	69.00
409A	26.60	.20	69.00
409B	31.20	.20	56.00

WATERSHED 4, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
401	2.40	.00	32.00	52.00	.74
401	.60	1.00	98.00	98.00	.00
401	3.00	.20			.59
402	19.84	.00	32.00	52.00	.74
402	4.96	1.00	98.00	98.00	.00
402	24.80	.20			.59
403	42.40	.00	32.00	52.00	.74
403	10.60	1.00	98.00	98.00	.00
403	53.00	.20			.59
404A	28.64	.00	32.00	52.00	.74
404A	7.16	1.00	98.00	98.00	.00
404A	35.80	.20			.59
404B	16.88	.00	69.00	86.20	.29
404B	4.22	1.00	98.00	98.00	.00
404B	21.10	.20			.23
405A	7.28	.00	32.00	52.00	.74
405A	1.82	1.00	98.00	98.00	.00
405A	9.10	.20			.59
405B	95.52	.00	69.00	86.20	.29
405B	23.88	1.00	98.00	98.00	.00
405B	119.40	.20			.23
406	51.44	.00	69.00	86.20	.29
406	12.86	1.00	98.00	98.00	.00
406	64.30	.20			.23
407	161.60	.00	69.00	86.20	.29
407	40.40	1.00	98.00	98.00	.00
407	202.00	.20			.23
408	65.36	.00	69.00	86.20	.29
408	16.34	1.00	98.00	98.00	.00
408	81.70	.20			.23
409A	21.28	.00	69.00	86.20	.29
409A	5.32	1.00	98.00	98.00	.00
409A	26.60	.20			.23
409B	24.96	.00	56.00	75.80	.42
409B	6.24	1.00	98.00	98.00	.00
409B	31.20	.20			.34

WATERSHED 4, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	672.00
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.302
LOW LOSS FRACTION (Y BAR)	=	.349

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
13.12C	16.88	.00	69.00	86.20	.29
13.12C	4.22	1.00	98.00	98.00	.00
13.12C	21.10	.20			.23
13.12D	14.16	.00	56.00	75.80	.42
13.12D	3.54	1.00	98.00	98.00	.00
13.12D	17.70	.20			.34
1.53C	14.16	.00	56.00	75.80	.42
1.53C	3.54	1.00	98.00	98.00	.00
1.53C	17.70	.20			.34
1.14B	152.08	.00	56.00	75.80	.42
1.14B	38.02	1.00	98.00	98.00	.00
1.14B	190.10	.20			.34
1.15	334.25	.00	56.00	75.80	.42
1.15	83.56	1.00	98.00	98.00	.00
1.15	417.81	.20			.34
1.16A	58.77	.00	56.00	75.80	.42
1.16A	14.69	1.00	98.00	98.00	.00
1.16A	73.46	.20			.34
1.16B	58.03	.00	69.00	86.20	.29
1.16B	14.51	1.00	98.00	98.00	.00
1.16B	72.54	.20			.23
19.1A	1.92	.00	56.00	75.80	.42
19.1A	.48	1.00	98.00	98.00	.00
19.1A	2.40	.20			.34
19.1B	5.12	.00	69.00	86.20	.29
19.1B	1.28	1.00	98.00	98.00	.00
19.1B	6.40	.20			.23
19.2	11.04	.00	56.00	75.80	.42
19.2	2.76	1.00	98.00	98.00	.00
19.2	13.80	.20			.34
19.3A	64.64	.00	56.00	75.80	.42
19.3A	16.16	1.00	98.00	98.00	.00
19.3A	80.80	.20			.34
19.3B	8.80	.00	69.00	86.20	.29
19.3B	2.20	1.00	98.00	98.00	.00
19.3B	11.00	.20			.23
19.4	174.80	.00	56.00	75.80	.42
19.4	43.70	1.00	98.00	98.00	.00
19.4	218.50	.20			.34
19.5	381.28	.00	56.00	75.80	.42
19.5	95.32	1.00	98.00	98.00	.00
19.5	476.60	.20			.34

WATERSHED 1, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.16

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
19.6	191.00	.00	56.00	75.80	.42
19.6	47.75	1.00	98.00	98.00	.00
19.6	238.75	.20			.34
19.7	93.28	.00	56.00	75.80	.42
19.7	23.32	1.00	98.00	98.00	.00
19.7	116.60	.20			.34
19.8A	586.96	.00	56.00	75.80	.42
19.8A	146.74	1.00	98.00	98.00	.00
19.8A	733.70	.20			.34
19.8B	16.64	.00	69.00	86.20	.29
19.8B	4.16	1.00	98.00	98.00	.00
19.8B	20.80	.20			.23
1.16C	250.48	.00	56.00	75.80	.42
1.16C	62.62	1.00	98.00	98.00	.00
1.16C	313.10	.20			.34
1.16D	220.40	.00	69.00	86.20	.29
1.16D	55.10	1.00	98.00	98.00	.00
1.16D	275.50	.20			.23

WATERSHED 4, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 4.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
401	3.00	.20	32.00
402	24.80	.20	32.00
403	53.00	.20	32.00
404A	35.80	.20	32.00
404B	21.10	.20	69.00
405A	9.10	.20	32.00
405B	119.40	.20	69.00
406	64.30	.20	69.00
407	202.00	.20	69.00
408	81.70	.20	69.00
409A	26.60	.20	69.00
409B	31.20	.20	56.00
410A	35.80	.20	69.00
410B	53.30	.20	56.00
421	10.00	.20	69.00
422	57.00	.20	69.00
423	66.10	.20	69.00
424	179.00	.20	69.00
431	6.00	.20	69.00
432	49.60	.20	69.00
433	173.50	.20	69.00
424A	83.60	.20	69.00
425A	10.90	.20	56.00
425B	36.70	.20	69.00
410C	137.00	.20	69.00
410D	44.20	.20	56.00

WATERSHED 4, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
401	2.40	.00	32.00	52.00	.74
401	.60	1.00	98.00	98.00	.00
401	3.00	.20			.59
402	19.84	.00	32.00	52.00	.74
402	4.96	1.00	98.00	98.00	.00
402	24.80	.20			.59
403	42.40	.00	32.00	52.00	.74
403	10.60	1.00	98.00	98.00	.00
403	53.00	.20			.59
404A	28.64	.00	32.00	52.00	.74
404A	7.16	1.00	98.00	98.00	.00
404A	35.80	.20			.59
404B	16.88	.00	69.00	86.20	.29
404B	4.22	1.00	98.00	98.00	.00
404B	21.10	.20			.23
405A	7.28	.00	32.00	52.00	.74
405A	1.82	1.00	98.00	98.00	.00
405A	9.10	.20			.59
405B	95.52	.00	69.00	86.20	.29
405B	23.88	1.00	98.00	98.00	.00
405B	119.40	.20			.23
406	51.44	.00	69.00	86.20	.29
406	12.86	1.00	98.00	98.00	.00
406	64.30	.20			.23
407	161.60	.00	69.00	86.20	.29
407	40.40	1.00	98.00	98.00	.00
407	202.00	.20			.23
408	65.36	.00	69.00	86.20	.29
408	16.34	1.00	98.00	98.00	.00
408	81.70	.20			.23
409A	21.28	.00	69.00	86.20	.29
409A	5.32	1.00	98.00	98.00	.00
409A	26.60	.20			.23
409B	24.96	.00	56.00	75.80	.42
409B	6.24	1.00	98.00	98.00	.00
409B	31.20	.20			.34
410A	28.64	.00	69.00	86.20	.29
410A	7.16	1.00	98.00	98.00	.00
410A	35.80	.20			.23
410B	42.64	.00	56.00	75.80	.42
410B	10.66	1.00	98.00	98.00	.00
410B	53.30	.20			.34

WATERSHED 4, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
421	8.00	.00	69.00	86.20	.29
421	2.00	1.00	98.00	98.00	.00
421	10.00	.20			.23
422	45.60	.00	69.00	86.20	.29
422	11.40	1.00	98.00	98.00	.00
422	57.00	.20			.23
423	52.88	.00	69.00	86.20	.29
423	13.22	1.00	98.00	98.00	.00
423	66.10	.20			.23
424	143.20	.00	69.00	86.20	.29
424	35.80	1.00	98.00	98.00	.00
424	179.00	.20			.23
431	4.80	.00	69.00	86.20	.29
431	1.20	1.00	98.00	98.00	.00
431	6.00	.20			.23
432	39.68	.00	69.00	86.20	.29
432	9.92	1.00	98.00	98.00	.00
432	49.60	.20			.23
433	138.80	.00	69.00	86.20	.29
433	34.70	1.00	98.00	98.00	.00
433	173.50	.20			.23
424A	66.88	.00	69.00	86.20	.29
424A	16.72	1.00	98.00	98.00	.00
424A	83.60	.20			.23
425A	8.72	.00	56.00	75.80	.42
425A	2.18	1.00	98.00	98.00	.00
425A	10.90	.20			.34
425B	29.36	.00	69.00	86.20	.29
425B	7.34	1.00	98.00	98.00	.00
425B	36.70	.20			.23
410C	109.60	.00	69.00	86.20	.29
410C	27.40	1.00	98.00	98.00	.00
410C	137.00	.20			.23
410D	35.36	.00	56.00	75.80	.42
410D	8.84	1.00	98.00	98.00	.00
410D	44.20	.20			.34

WATERSHED 4, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1614.70
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.267
LOW LOSS FRACTION (Y BAR)	=	.309

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 4, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 4.12

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
401	3.00	.20	32.00
402	24.80	.20	32.00
403	53.00	.20	32.00
404A	35.80	.20	32.00
404B	21.10	.20	69.00
405A	9.10	.20	32.00
405B	119.40	.20	69.00
406	64.30	.20	69.00
407	202.00	.20	69.00
408	81.70	.20	69.00
409A	26.60	.20	69.00
409B	31.20	.20	56.00
410A	35.80	.20	69.00
410B	53.30	.20	56.00
421	10.00	.20	69.00
422	57.00	.20	69.00
423	66.10	.20	69.00
424	179.00	.20	69.00
431	6.00	.20	69.00
432	49.60	.20	69.00
433	173.50	.20	69.00
424A	83.60	.20	69.00
425A	10.90	.20	56.00
425B	36.70	.20	69.00
410C	137.00	.20	69.00
410D	44.20	.20	56.00
411	52.35	.20	56.00
412A	244.30	.20	56.00
412B	92.80	.20	69.00
441	5.00	.20	69.00
442	52.30	.20	69.00
443	67.90	.20	69.00
444A	72.40	.20	69.00
444B	67.90	.20	56.00
412C	96.40	.20	69.00
412D	101.00	.20	56.00

WATERSHED 4, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.12

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
401	2.40	.00	32.00	52.00	.74
401	.60	1.00	98.00	98.00	.00
401	3.00	.20			.59
402	19.84	.00	32.00	52.00	.74
402	4.96	1.00	98.00	98.00	.00
402	24.80	.20			.59
403	42.40	.00	32.00	52.00	.74
403	10.60	1.00	98.00	98.00	.00
403	53.00	.20			.59
404A	28.64	.00	32.00	52.00	.74
404A	7.16	1.00	98.00	98.00	.00
404A	35.80	.20			.59
404B	16.88	.00	69.00	86.20	.29
404B	4.22	1.00	98.00	98.00	.00
404B	21.10	.20			.23
405A	7.28	.00	32.00	52.00	.74
405A	1.82	1.00	98.00	98.00	.00
405A	9.10	.20			.59
405B	95.52	.00	69.00	86.20	.29
405B	23.88	1.00	98.00	98.00	.00
405B	119.40	.20			.23
406	51.44	.00	69.00	86.20	.29
406	12.86	1.00	98.00	98.00	.00
406	64.30	.20			.23
407	161.60	.00	69.00	86.20	.29
407	40.40	1.00	98.00	98.00	.00
407	202.00	.20			.23
408	65.36	.00	69.00	86.20	.29
408	16.34	1.00	98.00	98.00	.00
408	81.70	.20			.23
409A	21.28	.00	69.00	86.20	.29
409A	5.32	1.00	98.00	98.00	.00
409A	26.60	.20			.23
409B	24.96	.00	56.00	75.80	.42
409B	6.24	1.00	98.00	98.00	.00
409B	31.20	.20			.34
410A	28.64	.00	69.00	86.20	.29
410A	7.16	1.00	98.00	98.00	.00
410A	35.80	.20			.23
410B	42.64	.00	56.00	75.80	.42
410B	10.66	1.00	98.00	98.00	.00
410B	53.30	.20			.34

WATERSHED 4, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.12

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
421	8.00	.00	69.00	86.20	.29
421	2.00	1.00	98.00	98.00	.00
421	10.00	.20			.23
422	45.60	.00	69.00	86.20	.29
422	11.40	1.00	98.00	98.00	.00
422	57.00	.20			.23
423	52.88	.00	69.00	86.20	.29
423	13.22	1.00	98.00	98.00	.00
423	66.10	.20			.23
424	143.20	.00	69.00	86.20	.29
424	35.80	1.00	98.00	98.00	.00
424	179.00	.20			.23
431	4.80	.00	69.00	86.20	.29
431	1.20	1.00	98.00	98.00	.00
431	6.00	.20			.23
432	39.68	.00	69.00	86.20	.29
432	9.92	1.00	98.00	98.00	.00
432	49.60	.20			.23
433	138.80	.00	69.00	86.20	.29
433	34.70	1.00	98.00	98.00	.00
433	173.50	.20			.23
424A	66.88	.00	69.00	86.20	.29
424A	16.72	1.00	98.00	98.00	.00
424A	83.60	.20			.23
425A	8.72	.00	56.00	75.80	.42
425A	2.18	1.00	98.00	98.00	.00
425A	10.90	.20			.34
425B	29.36	.00	69.00	86.20	.29
425B	7.34	1.00	98.00	98.00	.00
425B	36.70	.20			.23
410C	109.60	.00	69.00	86.20	.29
410C	27.40	1.00	98.00	98.00	.00
410C	137.00	.20			.23
410D	35.36	.00	56.00	75.80	.42
410D	8.84	1.00	98.00	98.00	.00
410D	44.20	.20			.34
411	41.88	.00	56.00	75.80	.42
411	10.47	1.00	98.00	98.00	.00
411	52.35	.20			.34
412A	195.44	.00	56.00	75.80	.42
412A	48.86	1.00	98.00	98.00	.00
412A	244.30	.20			.34

WATERSHED 4, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.12

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
412B	74.24	.00	69.00	86.20	.29
412B	18.56	1.00	98.00	98.00	.00
412B	92.80	.20			.23
441	4.00	.00	69.00	86.20	.29
441	1.00	1.00	98.00	98.00	.00
441	5.00	.20			.23
442	41.84	.00	69.00	86.20	.29
442	10.46	1.00	98.00	98.00	.00
442	52.30	.20			.23
443	54.32	.00	69.00	86.20	.29
443	13.58	1.00	98.00	98.00	.00
443	67.90	.20			.23
444A	57.92	.00	69.00	86.20	.29
444A	14.48	1.00	98.00	98.00	.00
444A	72.40	.20			.23
444B	54.32	.00	56.00	75.80	.42
444B	13.58	1.00	98.00	98.00	.00
444B	67.90	.20			.34
412C	77.12	.00	69.00	86.20	.29
412C	19.28	1.00	98.00	98.00	.00
412C	96.40	.20			.23
412D	80.80	.00	56.00	75.80	.42
412D	20.20	1.00	98.00	98.00	.00
412D	101.00	.20			.34

WATERSHED 4, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	2467.05
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.274
LOW LOSS FRACTION (Y BAR)	=	.322

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
301	3.00	.20	69.00
302	16.80	.20	32.00
303A	62.50	.20	69.00
303B	4.90	.20	69.00
304A	75.30	.20	69.00
304B	12.54	.20	32.00
304C	2.75	.20	56.00
305A	5.00	.20	56.00
305B	73.00	.20	69.00
306A	43.10	.20	56.00
306B	73.50	.20	69.00
307	312.20	.20	69.00
308	52.30	.20	69.00
309A	76.20	.20	56.00
309B	41.30	.20	69.00
310	101.10	.20	56.00
312A	220.70	.20	56.00
312A	104.70	.20	56.00
312B	206.60	.20	69.00
413A	3.50	.15	77.00
413B	155.00	.30	69.00

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
301	2.40	.00	69.00	86.20	.29
301	.60	1.00	98.00	98.00	.00
301	3.00	.20			.23
302	13.44	.00	32.00	52.00	.74
302	3.36	1.00	98.00	98.00	.00
302	16.80	.20			.59
303A	50.00	.00	69.00	86.20	.29
303A	12.50	1.00	98.00	98.00	.00
303A	62.50	.20			.23
303B	3.92	.00	69.00	86.20	.29
303B	.98	1.00	98.00	98.00	.00
303B	4.90	.20			.23
304A	60.24	.00	69.00	86.20	.29
304A	15.06	1.00	98.00	98.00	.00
304A	75.30	.20			.23
304B	10.03	.00	32.00	52.00	.74
304B	2.51	1.00	98.00	98.00	.00
304B	12.54	.20			.59
304C	2.20	.00	56.00	75.80	.42
304C	.55	1.00	98.00	98.00	.00
304C	2.75	.20			.34
305A	4.00	.00	56.00	75.80	.42
305A	1.00	1.00	98.00	98.00	.00
305A	5.00	.20			.34
305B	58.40	.00	69.00	86.20	.29
305B	14.60	1.00	98.00	98.00	.00
305B	73.00	.20			.23
306A	34.48	.00	56.00	75.80	.42
306A	8.62	1.00	98.00	98.00	.00
306A	43.10	.20			.34
306B	58.80	.00	69.00	86.20	.29
306B	14.70	1.00	98.00	98.00	.00
306B	73.50	.20			.23
307	249.76	.00	69.00	86.20	.29
307	62.44	1.00	98.00	98.00	.00
307	312.20	.20			.23
308	41.84	.00	69.00	86.20	.29
308	10.46	1.00	98.00	98.00	.00
308	52.30	.20			.23
309A	60.96	.00	56.00	75.80	.42
309A	15.24	1.00	98.00	98.00	.00
309A	76.20	.20			.34

WATERSHED 3, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
309B	33.04	.00	69.00	86.20	.29
309B	8.26	1.00	98.00	98.00	.00
309B	41.30	.20			.23
310	80.88	.00	56.00	75.80	.42
310	20.22	1.00	98.00	98.00	.00
310	101.10	.20			.34
312A	176.56	.00	56.00	75.80	.42
312A	44.14	1.00	98.00	98.00	.00
312A	220.70	.20			.34
312A	83.76	.00	56.00	75.80	.42
312A	20.94	1.00	98.00	98.00	.00
312A	104.70	.20			.34
312B	165.28	.00	69.00	86.20	.29
312B	41.32	1.00	98.00	98.00	.00
312B	206.60	.20			.23
413A	2.97	.00	77.00	92.20	.19
413A	.53	1.00	98.00	98.00	.00
413A	3.50	.15			.16
413B	108.50	.00	69.00	86.20	.29
413B	46.50	1.00	98.00	98.00	.00
413B	155.00	.30			.20

WATERSHED 3, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1645.99
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.269
LOW LOSS FRACTION (Y BAR)	=	.320

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 4, DESIGN POINT 1.20

LOSS RATE RAW INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
401	3.00	.20	32.00
402	24.80	.20	32.00
403	53.00	.20	32.00
404A	35.80	.20	32.00
404B	21.10	.20	69.00
405A	9.10	.20	32.00
405B	119.40	.20	69.00
406	64.30	.20	69.00
407	202.00	.20	69.00
408	81.70	.20	69.00
409A	26.60	.20	69.00
409B	31.20	.20	56.00
410A	35.80	.20	69.00
410B	53.30	.20	56.00
421	10.00	.20	69.00
422	57.00	.20	69.00
423	66.10	.20	69.00
424	179.00	.20	69.00
431	6.00	.20	69.00
432	49.60	.20	69.00
433	173.50	.20	69.00
424A	83.60	.20	69.00
425A	10.90	.20	56.00
425B	36.70	.20	69.00
410C	137.00	.20	69.00
410D	44.20	.20	56.00
411	52.35	.20	56.00
412A	244.30	.20	56.00
412B	92.80	.20	69.00
441	5.00	.20	69.00
442	52.30	.20	69.00
443	67.90	.20	69.00
444A	72.40	.20	69.00
444B	67.90	.20	56.00
412C	96.40	.20	69.00
412D	101.00	.20	56.00
413A	70.70	.50	69.00
413B	55.10	.30	69.00
413C	11.90	.15	77.00

WATERSHED 4, DESIGN POINT 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
401	2.40	.00	32.00	52.00	.74
401	.60	1.00	98.00	98.00	.00
401	3.00	.20			.59
402	19.84	.00	32.00	52.00	.74
402	4.96	1.00	98.00	98.00	.00
402	24.80	.20			.59
403	42.40	.00	32.00	52.00	.74
403	10.60	1.00	98.00	98.00	.00
403	53.00	.20			.59
404A	28.64	.00	32.00	52.00	.74
404A	7.16	1.00	98.00	98.00	.00
404A	35.80	.20			.59
404B	16.88	.00	69.00	86.20	.29
404B	4.22	1.00	98.00	98.00	.00
404B	21.10	.20			.23
405A	7.28	.00	32.00	52.00	.74
405A	1.82	1.00	98.00	98.00	.00
405A	9.10	.20			.59
405B	95.52	.00	69.00	86.20	.29
405B	23.88	1.00	98.00	98.00	.00
405B	119.40	.20			.23
406	51.44	.00	69.00	86.20	.29
406	12.86	1.00	98.00	98.00	.00
406	64.30	.20			.23
407	161.60	.00	69.00	86.20	.29
407	40.40	1.00	98.00	98.00	.00
407	202.00	.20			.23
408	65.36	.00	69.00	86.20	.29
408	16.34	1.00	98.00	98.00	.00
408	81.70	.20			.23
409A	21.28	.00	69.00	86.20	.29
409A	5.32	1.00	98.00	98.00	.00
409A	26.60	.20			.23
409B	24.96	.00	56.00	75.80	.42
409B	6.24	1.00	98.00	98.00	.00
409B	31.20	.20			.34
410A	28.64	.00	69.00	86.20	.29
410A	7.16	1.00	98.00	98.00	.00
410A	35.80	.20			.23
410B	42.64	.00	56.00	75.80	.42
410B	10.66	1.00	98.00	98.00	.00
410B	53.30	.20			.34

WATERSHED 4, DESIGN POINT 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
421	8.00	.00	69.00	86.20	.29
421	2.00	1.00	98.00	98.00	.00
421	10.00	.20			.23
422	45.60	.00	69.00	86.20	.29
422	11.40	1.00	98.00	98.00	.00
422	57.00	.20			.23
423	52.88	.00	69.00	86.20	.29
423	13.22	1.00	98.00	98.00	.00
423	66.10	.20			.23
424	143.20	.00	69.00	86.20	.29
424	35.80	1.00	98.00	98.00	.00
424	179.00	.20			.23
431	4.80	.00	69.00	86.20	.29
431	1.20	1.00	98.00	98.00	.00
431	6.00	.20			.23
432	39.68	.00	69.00	86.20	.29
432	9.92	1.00	98.00	98.00	.00
432	49.60	.20			.23
433	138.80	.00	69.00	86.20	.29
433	34.70	1.00	98.00	98.00	.00
433	173.50	.20			.23
424A	66.88	.00	69.00	86.20	.29
424A	16.72	1.00	98.00	98.00	.00
424A	83.60	.20			.23
425A	8.72	.00	56.00	75.80	.42
425A	2.18	1.00	98.00	98.00	.00
425A	10.90	.20			.34
425B	29.36	.00	69.00	86.20	.29
425B	7.34	1.00	98.00	98.00	.00
425B	36.70	.20			.23
410C	109.60	.00	69.00	86.20	.29
410C	27.40	1.00	98.00	98.00	.00
410C	137.00	.20			.23
410D	35.36	.00	56.00	75.80	.42
410D	8.84	1.00	98.00	98.00	.00
410D	44.20	.20			.34
411	41.88	.00	56.00	75.80	.42
411	10.47	1.00	98.00	98.00	.00
411	52.35	.20			.34
412A	195.44	.00	56.00	75.80	.42
412A	48.86	1.00	98.00	98.00	.00
412A	244.30	.20			.34

WATERSHED 4, DESIGN POINT 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 4.13

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
412B	74.24	.00	69.00	86.20	.29
412B	18.56	1.00	98.00	98.00	.00
412B	92.80	.20			.23
441	4.00	.00	69.00	86.20	.29
441	1.00	1.00	98.00	98.00	.00
441	5.00	.20			.23
442	41.84	.00	69.00	86.20	.29
442	10.46	1.00	98.00	98.00	.00
442	52.30	.20			.23
443	54.32	.00	69.00	86.20	.29
443	13.58	1.00	98.00	98.00	.00
443	67.90	.20			.23
444A	57.92	.00	69.00	86.20	.29
444A	14.48	1.00	98.00	98.00	.00
444A	72.40	.20			.23
444B	54.32	.00	56.00	75.80	.42
444B	13.58	1.00	98.00	98.00	.00
444B	67.90	.20			.34
412C	77.12	.00	69.00	86.20	.29
412C	19.28	1.00	98.00	98.00	.00
412C	96.40	.20			.23
412D	80.80	.00	56.00	75.80	.42
412D	20.20	1.00	98.00	98.00	.00
412D	101.00	.20			.34
413A	35.35	.00	69.00	86.20	.29
413A	35.35	1.00	98.00	98.00	.00
413A	70.70	.50			.14
413B	38.57	.00	69.00	86.20	.29
413B	16.53	1.00	98.00	98.00	.00
413B	55.10	.30			.20
413C	10.11	.00	77.00	92.20	.19
413C	1.78	1.00	98.00	98.00	.00
413C	11.90	.15			.16

WATERSHED 4, DESIGN POINT 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	2604.75
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.268
LOW LOSS FRACTION (Y BAR)	=	.316

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WAATERSHED 1A, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.18

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
101	4.50	.30	69.00
102	36.70	.30	69.00
103A	150.50	.30	69.00
103B	7.50	.15	77.00
104A	290.10	.30	69.00
104B	18.00	.15	77.00
118A	154.20	.30	56.00
118B	10.00	.30	69.00
118C	10.00	.15	65.00
118D	114.00	.50	56.00
118E	64.00	.50	69.00
118F	73.00	.90	69.00

WAATERSHED 1A, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.18

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
101	3.15	.00	69.00	86.20	.29
101	1.35	1.00	98.00	98.00	.00
101	4.50	.30			.20
102	25.69	.00	69.00	86.20	.29
102	11.01	1.00	98.00	98.00	.00
102	36.70	.30			.20
103A	105.35	.00	69.00	86.20	.29
103A	45.15	1.00	98.00	98.00	.00
103A	150.50	.30			.20
103B	6.38	.00	77.00	92.20	.19
103B	1.13	1.00	98.00	98.00	.00
103B	7.50	.15			.16
104A	203.07	.00	69.00	86.20	.29
104A	87.03	1.00	98.00	98.00	.00
104A	290.10	.30			.20
104B	15.30	.00	77.00	92.20	.19
104B	2.70	1.00	98.00	98.00	.00
104B	18.00	.15			.16
118A	107.94	.00	56.00	75.80	.42
118A	46.26	1.00	98.00	98.00	.00
118A	154.20	.30			.29
118B	7.00	.00	69.00	86.20	.29
118B	3.00	1.00	98.00	98.00	.00
118B	10.00	.30			.20
118C	8.50	.00	65.00	83.00	.31
118C	1.50	1.00	98.00	98.00	.00
118C	10.00	.15			.27
118D	57.00	.00	56.00	75.80	.42
118D	57.00	1.00	98.00	98.00	.00
118D	114.00	.50			.21
118E	32.00	.00	69.00	86.20	.29
118E	32.00	1.00	98.00	98.00	.00
118E	64.00	.50			.14
118F	7.30	.00	69.00	86.20	.29
118F	65.70	1.00	98.00	98.00	.00
118F	73.00	.90			.03

WAATERSHED 1A, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	932.50
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.199
LOW LOSS FRACTION (Y BAR)	=	.247

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1B, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 1.18

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
101A	1.30	.15	77.00
101B	2.80	.30	69.00
102A	2.00	.15	77.00
102B	29.50	.30	69.00
103A	14.20	.90	56.00
103B	33.00	.90	69.00
103C	73.00	.30	69.00
103D	2.90	.30	56.00
118A	72.20	.90	56.00
118B	32.00	.50	56.00
118C	18.40	.30	56.00
118D	11.90	.50	69.00
118E	1.90	.30	69.00

WATERSHED 1B, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 1.18

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
101A	1.10	.00	77.00	92.20	.19
101A	.20	1.00	98.00	98.00	.00
101A	1.30	.15			.16
101B	1.96	.00	69.00	86.20	.29
101B	.84	1.00	98.00	98.00	.00
101B	2.80	.30			.20
102A	1.70	.00	77.00	92.20	.19
102A	.30	1.00	98.00	98.00	.00
102A	2.00	.15			.16
102B	20.65	.00	69.00	86.20	.29
102B	8.85	1.00	98.00	98.00	.00
102B	29.50	.30			.20
103A	1.42	.00	56.00	75.80	.42
103A	12.78	1.00	98.00	98.00	.00
103A	14.20	.90			.04
103B	3.30	.00	69.00	86.20	.29
103B	29.70	1.00	98.00	98.00	.00
103B	33.00	.90			.03
103C	51.10	.00	69.00	86.20	.29
103C	21.90	1.00	98.00	98.00	.00
103C	73.00	.30			.20
103D	2.03	.00	56.00	75.80	.42
103D	.87	1.00	98.00	98.00	.00
103D	2.90	.30			.29
118A	7.22	.00	56.00	75.80	.42
118A	64.98	1.00	98.00	98.00	.00
118A	72.20	.90			.04
118B	16.00	.00	56.00	75.80	.42
118B	16.00	1.00	98.00	98.00	.00
118B	32.00	.50			.21
118C	12.88	.00	56.00	75.80	.42
118C	5.52	1.00	98.00	98.00	.00
118C	18.40	.30			.29
118D	5.95	.00	69.00	86.20	.29
118D	5.95	1.00	98.00	98.00	.00
118D	11.90	.50			.14
118E	1.33	.00	69.00	86.20	.29
118E	.57	1.00	98.00	98.00	.00
118E	1.90	.30			.20

WATERSHED 1B, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	295.10
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.140
LOW LOSS FRACTION (Y BAR)	=	.189

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1C, DESIGN NODE 120

LOSS RATE RAW INPUT DATA AT NODE 119

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
101	4.00	.30	69.00
102A	40.50	.30	56.00
102B	1.20	.90	56.00
103A	14.50	.30	56.00
103B	39.50	.50	56.00
103C	34.90	.90	56.00
119A	339.00	.90	56.00
119B	156.00	.90	69.00

WATERSHED 1C, DESIGN NODE 120

LOSS RATE PROCESSED INPUT DATA AT NODE 119

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
101	2.80	.00	69.00	86.20	.29
101	1.20	1.00	98.00	98.00	.00
101	4.00	.30			.20
102A	28.35	.00	56.00	75.80	.42
102A	12.15	1.00	98.00	98.00	.00
102A	40.50	.30			.29
102B	.12	.00	56.00	75.80	.42
102B	1.08	1.00	98.00	98.00	.00
102B	1.20	.90			.04
103A	10.15	.00	56.00	75.80	.42
103A	4.35	1.00	98.00	98.00	.00
103A	14.50	.30			.29
103B	19.75	.00	56.00	75.80	.42
103B	19.75	1.00	98.00	98.00	.00
103B	39.50	.50			.21
103C	3.49	.00	56.00	75.80	.42
103C	31.41	1.00	98.00	98.00	.00
103C	34.90	.90			.04
119A	33.90	.00	56.00	75.80	.42
119A	305.10	1.00	98.00	98.00	.00
119A	339.00	.90			.04
119B	15.60	.00	69.00	86.20	.29
119B	140.40	1.00	98.00	98.00	.00
119B	156.00	.90			.03

WATERSHED 1C, DESIGN NODE 120

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	629.60
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.072
LOW LOSS FRACTION (Y BAR)	=	.128

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1D, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 119

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
101	5.20	.90	69.00
102A	33.90	.90	69.00
102B	11.00	.50	69.00
103A	2.00	.90	69.00
103B	56.00	.50	69.00
103C	74.00	.30	69.00
103D	6.00	.15	77.00
104A	15.00	.15	77.00
104B	27.50	.30	56.00
104C	130.00	.30	69.00
104D	3.20	.15	65.00
104E	2.50	.50	69.00
105A	42.00	.30	69.00
105B	137.00	.30	56.00
105C	34.00	.15	65.00
105D	62.00	.90	56.00
119A	186.70	.90	56.00
119B	52.00	.15	65.00

WATERSHED 1D, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 119

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
101	.52	.00	69.00	86.20	.29
101	4.68	1.00	98.00	98.00	.00
101	5.20	.90			.03
102A	3.39	.00	69.00	86.20	.29
102A	30.51	1.00	98.00	98.00	.00
102A	33.90	.90			.03
102B	5.50	.00	69.00	86.20	.29
102B	5.50	1.00	98.00	98.00	.00
102B	11.00	.50			.14
103A	.20	.00	69.00	86.20	.29
103A	1.80	1.00	98.00	98.00	.00
103A	2.00	.90			.03
103B	28.00	.00	69.00	86.20	.29
103B	28.00	1.00	98.00	98.00	.00
103B	56.00	.50			.14
103C	51.80	.00	69.00	86.20	.29
103C	22.20	1.00	98.00	98.00	.00
103C	74.00	.30			.20
103D	5.10	.00	77.00	92.20	.19
103D	.90	1.00	98.00	98.00	.00
103D	6.00	.15			.16
104A	12.75	.00	77.00	92.20	.19
104A	2.25	1.00	98.00	98.00	.00
104A	15.00	.15			.16
104B	19.25	.00	56.00	75.80	.42
104B	8.25	1.00	98.00	98.00	.00
104B	27.50	.30			.29
104C	91.00	.00	69.00	86.20	.29
104C	39.00	1.00	98.00	98.00	.00
104C	130.00	.30			.20
104D	2.72	.00	65.00	83.00	.31
104D	.48	1.00	98.00	98.00	.00
104D	3.20	.15			.27
104E	1.25	.00	69.00	86.20	.29
104E	1.25	1.00	98.00	98.00	.00
104E	2.50	.50			.14
105A	29.40	.00	69.00	86.20	.29
105A	12.60	1.00	98.00	98.00	.00
105A	42.00	.30			.20
105B	95.90	.00	56.00	75.80	.42
105B	41.10	1.00	98.00	98.00	.00
105B	137.00	.30			.29

WATERSHED 1D, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 119

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
105C	28.90	.00	65.00	83.00	.31
105C	5.10	1.00	98.00	98.00	.00
105C	34.00	.15			.27
105D	6.20	.00	56.00	75.80	.42
105D	55.80	1.00	98.00	98.00	.00
105D	62.00	.90			.04
119A	18.67	.00	56.00	75.80	.42
119A	168.03	1.00	98.00	98.00	.00
119A	186.70	.90			.04
119B	44.20	.00	65.00	83.00	.31
119B	7.80	1.00	98.00	98.00	.00
119B	52.00	.15			.27

WATERSHED 1D, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	880.00
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.166
LOW LOSS FRACTION (Y BAR)	=	.218

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 507

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
501	8.50	.00	78.00
502	9.20	.00	78.00
503A	34.90	.00	78.00
503B	18.40	.20	32.00
504	66.10	.20	32.00
505	192.80	.20	32.00
506A	106.50	.20	32.00
506B	142.30	.20	69.00
507	137.70	.20	69.00

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 507

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
501	8.50	.00	78.00	92.80	.18
502	9.20	.00	78.00	92.80	.18
503A	34.90	.00	78.00	92.80	.18
503B	14.72	.00	32.00	52.00	.74
503B	3.68	1.00	98.00	98.00	.00
503B	18.40	.20			.59
504	52.88	.00	32.00	52.00	.74
504	13.22	1.00	98.00	98.00	.00
504	66.10	.20			.59
505	154.24	.00	32.00	52.00	.74
505	38.56	1.00	98.00	98.00	.00
505	192.80	.20			.59
506A	85.20	.00	32.00	52.00	.74
506A	21.30	1.00	98.00	98.00	.00
506A	106.50	.20			.59
506B	113.84	.00	69.00	86.20	.29
506B	28.46	1.00	98.00	98.00	.00
506B	142.30	.20			.23
507	110.16	.00	69.00	86.20	.29
507	27.54	1.00	98.00	98.00	.00
507	137.70	.20			.23

WATERSHED 5, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	716.40
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.420
LOW LOSS FRACTION (Y BAR)	=	.486

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 510

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
501	8.50	.00	78.00
502	9.20	.00	78.00
503A	34.90	.00	78.00
503B	18.40	.20	32.00
504	66.10	.20	32.00
505	192.80	.20	32.00
506A	106.50	.20	32.00
506B	142.30	.20	69.00
507	137.70	.20	69.00
508	156.10	.20	69.00
509	52.30	.20	69.00
510	57.00	.20	69.00
521	7.90	.20	69.00
522	50.00	.20	69.00
523	64.30	.20	69.00
524	42.20	.20	69.00
510A	25.70	.20	69.00

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 510

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
501	8.50	.00	78.00	92.80	.18
502	9.20	.00	78.00	92.80	.18
503A	34.90	.00	78.00	92.80	.18
503B	14.72	.00	32.00	52.00	.74
503B	3.68	1.00	98.00	98.00	.00
503B	18.40	.20			.59
504	52.88	.00	32.00	52.00	.74
504	13.22	1.00	98.00	98.00	.00
504	66.10	.20			.59
505	154.24	.00	32.00	52.00	.74
505	38.56	1.00	98.00	98.00	.00
505	192.80	.20			.59
506A	85.20	.00	32.00	52.00	.74
506A	21.30	1.00	98.00	98.00	.00
506A	106.50	.20			.59
506B	113.84	.00	69.00	86.20	.29
506B	28.46	1.00	98.00	98.00	.00
506B	142.30	.20			.23
507	110.16	.00	69.00	86.20	.29
507	27.54	1.00	98.00	98.00	.00
507	137.70	.20			.23
508	124.88	.00	69.00	86.20	.29
508	31.22	1.00	98.00	98.00	.00
508	156.10	.20			.23
509	41.84	.00	69.00	86.20	.29
509	10.46	1.00	98.00	98.00	.00
509	52.30	.20			.23
510	45.60	.00	69.00	86.20	.29
510	11.40	1.00	98.00	98.00	.00
510	57.00	.20			.23
521	6.32	.00	69.00	86.20	.29
521	1.58	1.00	98.00	98.00	.00
521	7.90	.20			.23
522	40.00	.00	69.00	86.20	.29
522	10.00	1.00	98.00	98.00	.00
522	50.00	.20			.23
523	51.44	.00	69.00	86.20	.29
523	12.86	1.00	98.00	98.00	.00
523	64.30	.20			.23
524	33.76	.00	69.00	86.20	.29
524	8.44	1.00	98.00	98.00	.00
524	42.20	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 510

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
510A	20.56	.00	69.00	86.20	.29
510A	5.14	1.00	98.00	98.00	.00
510A	25.70	.20			.23

WATERSHED 5, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1171.90
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.346
LOW LOSS FRACTION (Y BAR)	=	.399

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 511

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
501	8.50	.00	78.00
502	9.20	.00	78.00
503A	34.90	.00	78.00
503B	18.40	.20	32.00
504	66.10	.20	32.00
505	192.80	.20	32.00
506A	106.50	.20	32.00
506B	142.30	.20	69.00
507	137.70	.20	69.00
508	156.10	.20	69.00
509	52.30	.20	69.00
510	57.00	.20	69.00
521	7.90	.20	69.00
522	50.00	.20	69.00
523	64.30	.20	69.00
524	42.20	.20	69.00
510A	25.70	.20	69.00
511	127.60	.20	69.00
531A	3.50	.20	32.00
531B	2.50	.20	69.00
532	21.10	.20	69.00
533	53.20	.20	69.00
534	107.40	.20	69.00
535	63.40	.20	69.00
536	72.50	.20	69.00
511A	26.60	.20	69.00

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 511

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
501	8.50	.00	78.00	92.80	.18
502	9.20	.00	78.00	92.80	.18
503A	34.90	.00	78.00	92.80	.18
503B	14.72	.00	32.00	52.00	.74
503B	3.68	1.00	98.00	98.00	.00
503B	18.40	.20			.59
504	52.88	.00	32.00	52.00	.74
504	13.22	1.00	98.00	98.00	.00
504	66.10	.20			.59
505	154.24	.00	32.00	52.00	.74
505	38.56	1.00	98.00	98.00	.00
505	192.80	.20			.59
506A	85.20	.00	32.00	52.00	.74
506A	21.30	1.00	98.00	98.00	.00
506A	106.50	.20			.59
506B	113.84	.00	69.00	86.20	.29
506B	28.46	1.00	98.00	98.00	.00
506B	142.30	.20			.23
507	110.16	.00	69.00	86.20	.29
507	27.54	1.00	98.00	98.00	.00
507	137.70	.20			.23
508	124.88	.00	69.00	86.20	.29
508	31.22	1.00	98.00	98.00	.00
508	156.10	.20			.23
509	41.84	.00	69.00	86.20	.29
509	10.46	1.00	98.00	98.00	.00
509	52.30	.20			.23
510	45.60	.00	69.00	86.20	.29
510	11.40	1.00	98.00	98.00	.00
510	57.00	.20			.23
521	6.32	.00	69.00	86.20	.29
521	1.58	1.00	98.00	98.00	.00
521	7.90	.20			.23
522	40.00	.00	69.00	86.20	.29
522	10.00	1.00	98.00	98.00	.00
522	50.00	.20			.23
523	51.44	.00	69.00	86.20	.29
523	12.86	1.00	98.00	98.00	.00
523	64.30	.20			.23
524	33.76	.00	69.00	86.20	.29
524	8.44	1.00	98.00	98.00	.00
524	42.20	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 511

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
510A	20.56	.00	69.00	86.20	.29
510A	5.14	1.00	98.00	98.00	.00
510A	25.70	.20			.23
511	102.08	.00	69.00	86.20	.29
511	25.52	1.00	98.00	98.00	.00
511	127.60	.20			.23
531A	2.80	.00	32.00	52.00	.74
531A	.70	1.00	98.00	98.00	.00
531A	3.50	.20			.59
531B	2.00	.00	69.00	86.20	.29
531B	.50	1.00	98.00	98.00	.00
531B	2.50	.20			.23
532	16.88	.00	69.00	86.20	.29
532	4.22	1.00	98.00	98.00	.00
532	21.10	.20			.23
533	42.56	.00	69.00	86.20	.29
533	10.64	1.00	98.00	98.00	.00
533	53.20	.20			.23
534	85.92	.00	69.00	86.20	.29
534	21.48	1.00	98.00	98.00	.00
534	107.40	.20			.23
535	50.72	.00	69.00	86.20	.29
535	12.68	1.00	98.00	98.00	.00
535	63.40	.20			.23
536	58.00	.00	69.00	86.20	.29
536	14.50	1.00	98.00	98.00	.00
536	72.50	.20			.23
511A	21.28	.00	69.00	86.20	.29
511A	5.32	1.00	98.00	98.00	.00
511A	26.60	.20			.23

WATERSHED 5, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1649.70
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.313
LOW LOSS FRACTION (Y BAR)	=	.360

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 513

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
501	8.50	.00	78.00
502	9.20	.00	78.00
503A	34.90	.00	78.00
503B	18.40	.20	32.00
504	66.10	.20	32.00
505	192.80	.20	32.00
506A	106.50	.20	32.00
506B	142.30	.20	69.00
507	137.70	.20	69.00
508	156.10	.20	69.00
509	52.30	.20	69.00
510	57.00	.20	69.00
521	7.90	.20	69.00
522	50.00	.20	69.00
523	64.30	.20	69.00
524	42.20	.20	69.00
510A	25.70	.20	69.00
511	127.60	.20	69.00
531A	3.50	.20	32.00
531B	2.50	.20	69.00
532	21.10	.20	69.00
533	53.20	.20	69.00
534	107.40	.20	69.00
535	63.40	.20	69.00
536	72.50	.20	69.00
511A	26.60	.20	69.00
512	180.90	.20	69.00
513	45.90	.20	69.00
541	6.10	.20	69.00
542	135.90	.20	69.00
513A	45.90	.20	69.00

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 513

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
501	8.50	.00	78.00	92.80	.18
502	9.20	.00	78.00	92.80	.18
503A	34.90	.00	78.00	92.80	.18
503B	14.72	.00	32.00	52.00	.74
503B	3.68	1.00	98.00	98.00	.00
503B	18.40	.20			.59
504	52.88	.00	32.00	52.00	.74
504	13.22	1.00	98.00	98.00	.00
504	66.10	.20			.59
505	154.24	.00	32.00	52.00	.74
505	38.56	1.00	98.00	98.00	.00
505	192.80	.20			.59
506A	85.20	.00	32.00	52.00	.74
506A	21.30	1.00	98.00	98.00	.00
506A	106.50	.20			.59
506B	113.84	.00	69.00	86.20	.29
506B	28.46	1.00	98.00	98.00	.00
506B	142.30	.20			.23
507	110.16	.00	69.00	86.20	.29
507	27.54	1.00	98.00	98.00	.00
507	137.70	.20			.23
508	124.88	.00	69.00	86.20	.29
508	31.22	1.00	98.00	98.00	.00
508	156.10	.20			.23
509	41.84	.00	69.00	86.20	.29
509	10.46	1.00	98.00	98.00	.00
509	52.30	.20			.23
510	45.60	.00	69.00	86.20	.29
510	11.40	1.00	98.00	98.00	.00
510	57.00	.20			.23
521	6.32	.00	69.00	86.20	.29
521	1.58	1.00	98.00	98.00	.00
521	7.90	.20			.23
522	40.00	.00	69.00	86.20	.29
522	10.00	1.00	98.00	98.00	.00
522	50.00	.20			.23
523	51.44	.00	69.00	86.20	.29
523	12.86	1.00	98.00	98.00	.00
523	64.30	.20			.23
524	33.76	.00	69.00	86.20	.29
524	8.44	1.00	98.00	98.00	.00
524	42.20	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 513

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
510A	20.56	.00	69.00	86.20	.29
510A	5.14	1.00	98.00	98.00	.00
510A	25.70	.20			.23
511	102.08	.00	69.00	86.20	.29
511	25.52	1.00	98.00	98.00	.00
511	127.60	.20			.23
531A	2.80	.00	32.00	52.00	.74
531A	.70	1.00	98.00	98.00	.00
531A	3.50	.20			.59
531B	2.00	.00	69.00	86.20	.29
531B	.50	1.00	98.00	98.00	.00
531B	2.50	.20			.23
532	16.88	.00	69.00	86.20	.29
532	4.22	1.00	98.00	98.00	.00
532	21.10	.20			.23
533	42.56	.00	69.00	86.20	.29
533	10.64	1.00	98.00	98.00	.00
533	53.20	.20			.23
534	85.92	.00	69.00	86.20	.29
534	21.48	1.00	98.00	98.00	.00
534	107.40	.20			.23
535	50.72	.00	69.00	86.20	.29
535	12.68	1.00	98.00	98.00	.00
535	63.40	.20			.23
536	58.00	.00	69.00	86.20	.29
536	14.50	1.00	98.00	98.00	.00
536	72.50	.20			.23
511A	21.28	.00	69.00	86.20	.29
511A	5.32	1.00	98.00	98.00	.00
511A	26.60	.20			.23
512	144.72	.00	69.00	86.20	.29
512	36.18	1.00	98.00	98.00	.00
512	180.90	.20			.23
513	36.72	.00	69.00	86.20	.29
513	9.18	1.00	98.00	98.00	.00
513	45.90	.20			.23
541	4.88	.00	69.00	86.20	.29
541	1.22	1.00	98.00	98.00	.00
541	6.10	.20			.23
542	108.72	.00	69.00	86.20	.29
542	27.18	1.00	98.00	98.00	.00
542	135.90	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 513

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
513A	36.72	.00	69.00	86.20	.29
513A	9.18	1.00	98.00	98.00	.00
513A	45.90	.20			.23

WATERSHED 5, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	2064.40
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.296
LOW LOSS FRACTION (Y BAR)	=	.340

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 515

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
501	8.50	.00	78.00
502	9.20	.00	78.00
503A	34.90	.00	78.00
503B	18.40	.20	32.00
504	66.10	.20	32.00
505	192.80	.20	32.00
506A	106.50	.20	32.00
506B	142.30	.20	69.00
507	137.70	.20	69.00
508	156.10	.20	69.00
509	52.30	.20	69.00
510	57.00	.20	69.00
521	7.90	.20	69.00
522	50.00	.20	69.00
523	64.30	.20	69.00
524	42.20	.20	69.00
510A	25.70	.20	69.00
511	127.60	.20	69.00
531A	3.50	.20	32.00
531B	2.50	.20	69.00
532	21.10	.20	69.00
533	53.20	.20	69.00
534	107.40	.20	69.00
535	63.40	.20	69.00
536	72.50	.20	69.00
511A	26.60	.20	69.00
512	180.90	.20	69.00
513	45.90	.20	69.00
541	6.10	.20	69.00
542	135.90	.20	69.00
513A	45.90	.20	69.00
514	96.40	.20	69.00
515A	66.00	.20	56.00
515B	43.10	.20	69.00

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 515

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
501	8.50	.00	78.00	92.80	.18
502	9.20	.00	78.00	92.80	.18
503A	34.90	.00	78.00	92.80	.18
503B	14.72	.00	32.00	52.00	.74
503B	3.68	1.00	98.00	98.00	.00
503B	18.40	.20			.59
504	52.88	.00	32.00	52.00	.74
504	13.22	1.00	98.00	98.00	.00
504	66.10	.20			.59
505	154.24	.00	32.00	52.00	.74
505	38.56	1.00	98.00	98.00	.00
505	192.80	.20			.59
506A	85.20	.00	32.00	52.00	.74
506A	21.30	1.00	98.00	98.00	.00
506A	106.50	.20			.59
506B	113.84	.00	69.00	86.20	.29
506B	28.46	1.00	98.00	98.00	.00
506B	142.30	.20			.23
507	110.16	.00	69.00	86.20	.29
507	27.54	1.00	98.00	98.00	.00
507	137.70	.20			.23
508	124.88	.00	69.00	86.20	.29
508	31.22	1.00	98.00	98.00	.00
508	156.10	.20			.23
509	41.84	.00	69.00	86.20	.29
509	10.46	1.00	98.00	98.00	.00
509	52.30	.20			.23
510	45.60	.00	69.00	86.20	.29
510	11.40	1.00	98.00	98.00	.00
510	57.00	.20			.23
521	6.32	.00	69.00	86.20	.29
521	1.58	1.00	98.00	98.00	.00
521	7.90	.20			.23
522	40.00	.00	69.00	86.20	.29
522	10.00	1.00	98.00	98.00	.00
522	50.00	.20			.23
523	51.44	.00	69.00	86.20	.29
523	12.86	1.00	98.00	98.00	.00
523	64.30	.20			.23
524	33.76	.00	69.00	86.20	.29
524	8.44	1.00	98.00	98.00	.00
524	42.20	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 515

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
510A	20.56	.00	69.00	86.20	.29
510A	5.14	1.00	98.00	98.00	.00
510A	25.70	.20			.23
511	102.08	.00	69.00	86.20	.29
511	25.52	1.00	98.00	98.00	.00
511	127.60	.20			.23
531A	2.80	.00	32.00	52.00	.74
531A	.70	1.00	98.00	98.00	.00
531A	3.50	.20			.59
531B	2.00	.00	69.00	86.20	.29
531B	.50	1.00	98.00	98.00	.00
531B	2.50	.20			.23
532	16.88	.00	69.00	86.20	.29
532	4.22	1.00	98.00	98.00	.00
532	21.10	.20			.23
533	42.56	.00	69.00	86.20	.29
533	10.64	1.00	98.00	98.00	.00
533	53.20	.20			.23
534	85.92	.00	69.00	86.20	.29
534	21.48	1.00	98.00	98.00	.00
534	107.40	.20			.23
535	50.72	.00	69.00	86.20	.29
535	12.68	1.00	98.00	98.00	.00
535	63.40	.20			.23
536	58.00	.00	69.00	86.20	.29
536	14.50	1.00	98.00	98.00	.00
536	72.50	.20			.23
511A	21.28	.00	69.00	86.20	.29
511A	5.32	1.00	98.00	98.00	.00
511A	26.60	.20			.23
512	144.72	.00	69.00	86.20	.29
512	36.18	1.00	98.00	98.00	.00
512	180.90	.20			.23
513	36.72	.00	69.00	86.20	.29
513	9.18	1.00	98.00	98.00	.00
513	45.90	.20			.23
541	4.88	.00	69.00	86.20	.29
541	1.22	1.00	98.00	98.00	.00
541	6.10	.20			.23
542	108.72	.00	69.00	86.20	.29
542	27.18	1.00	98.00	98.00	.00
542	135.90	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 515

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
513A	36.72	.00	69.00	86.20	.29
513A	9.18	1.00	98.00	98.00	.00
513A	45.90	.20			.23
514	77.12	.00	69.00	86.20	.29
514	19.28	1.00	98.00	98.00	.00
514	96.40	.20			.23
515A	52.80	.00	56.00	75.80	.42
515A	13.20	1.00	98.00	98.00	.00
515A	66.00	.20			.34
515B	34.48	.00	69.00	86.20	.29
515B	8.62	1.00	98.00	98.00	.00
515B	43.10	.20			.23

WATERSHED 5, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	2269.90
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.293
LOW LOSS FRACTION (Y BAR)	=	.338

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 517

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
501	8.50	.00	78.00
502	9.20	.00	78.00
503A	34.90	.00	78.00
503B	18.40	.20	32.00
504	66.10	.20	32.00
505	192.80	.20	32.00
506A	106.50	.20	32.00
506B	142.30	.20	69.00
507	137.70	.20	69.00
508	156.10	.20	69.00
509	52.30	.20	69.00
510	57.00	.20	69.00
521	7.90	.20	69.00
522	50.00	.20	69.00
523	64.30	.20	69.00
524	42.20	.20	69.00
510A	25.70	.20	69.00
511	127.60	.20	69.00
531A	3.50	.20	32.00
531B	2.50	.20	69.00
532	21.10	.20	69.00
533	53.20	.20	69.00
534	107.40	.20	69.00
535	63.40	.20	69.00
536	72.50	.20	69.00
511A	26.60	.20	69.00
512	180.90	.20	69.00
513	45.90	.20	69.00
541	6.10	.20	69.00
542	135.90	.20	69.00
513A	45.90	.20	69.00
514	96.40	.20	69.00
515A	66.00	.20	56.00
515B	43.10	.20	69.00
516A	173.00	.20	56.00
516B	286.00	.20	69.00
517A	111.00	.30	69.00
517B	110.00	.50	69.00
517C	26.70	.90	69.00

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 517

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
501	8.50	.00	78.00	92.80	.18
502	9.20	.00	78.00	92.80	.18
503A	34.90	.00	78.00	92.80	.18
503B	14.72	.00	32.00	52.00	.74
503B	3.68	1.00	98.00	98.00	.00
503B	18.40	.20			.59
504	52.88	.00	32.00	52.00	.74
504	13.22	1.00	98.00	98.00	.00
504	66.10	.20			.59
505	154.24	.00	32.00	52.00	.74
505	38.56	1.00	98.00	98.00	.00
505	192.80	.20			.59
506A	85.20	.00	32.00	52.00	.74
506A	21.30	1.00	98.00	98.00	.00
506A	106.50	.20			.59
506B	113.84	.00	69.00	86.20	.29
506B	28.46	1.00	98.00	98.00	.00
506B	142.30	.20			.23
507	110.16	.00	69.00	86.20	.29
507	27.54	1.00	98.00	98.00	.00
507	137.70	.20			.23
508	124.88	.00	69.00	86.20	.29
508	31.22	1.00	98.00	98.00	.00
508	156.10	.20			.23
509	41.84	.00	69.00	86.20	.29
509	10.46	1.00	98.00	98.00	.00
509	52.30	.20			.23
510	45.60	.00	69.00	86.20	.29
510	11.40	1.00	98.00	98.00	.00
510	57.00	.20			.23
521	6.32	.00	69.00	86.20	.29
521	1.58	1.00	98.00	98.00	.00
521	7.90	.20			.23
522	40.00	.00	69.00	86.20	.29
522	10.00	1.00	98.00	98.00	.00
522	50.00	.20			.23
523	51.44	.00	69.00	86.20	.29
523	12.86	1.00	98.00	98.00	.00
523	64.30	.20			.23
524	33.76	.00	69.00	86.20	.29
524	8.44	1.00	98.00	98.00	.00
524	42.20	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 517

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
510A	20.56	.00	69.00	86.20	.29
510A	5.14	1.00	98.00	98.00	.00
510A	25.70	.20			.23
511	102.08	.00	69.00	86.20	.29
511	25.52	1.00	98.00	98.00	.00
511	127.60	.20			.23
531A	2.80	.00	32.00	52.00	.74
531A	.70	1.00	98.00	98.00	.00
531A	3.50	.20			.59
531B	2.00	.00	69.00	86.20	.29
531B	.50	1.00	98.00	98.00	.00
531B	2.50	.20			.23
532	16.88	.00	69.00	86.20	.29
532	4.22	1.00	98.00	98.00	.00
532	21.10	.20			.23
533	42.56	.00	69.00	86.20	.29
533	10.64	1.00	98.00	98.00	.00
533	53.20	.20			.23
534	85.92	.00	69.00	86.20	.29
534	21.48	1.00	98.00	98.00	.00
534	107.40	.20			.23
535	50.72	.00	69.00	86.20	.29
535	12.68	1.00	98.00	98.00	.00
535	63.40	.20			.23
536	58.00	.00	69.00	86.20	.29
536	14.50	1.00	98.00	98.00	.00
536	72.50	.20			.23
511A	21.28	.00	69.00	86.20	.29
511A	5.32	1.00	98.00	98.00	.00
511A	26.60	.20			.23
512	144.72	.00	69.00	86.20	.29
512	36.18	1.00	98.00	98.00	.00
512	180.90	.20			.23
513	36.72	.00	69.00	86.20	.29
513	9.18	1.00	98.00	98.00	.00
513	45.90	.20			.23
541	4.88	.00	69.00	86.20	.29
541	1.22	1.00	98.00	98.00	.00
541	6.10	.20			.23
542	108.72	.00	69.00	86.20	.29
542	27.18	1.00	98.00	98.00	.00
542	135.90	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 517

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
513A	36.72	.00	69.00	86.20	.29
513A	9.18	1.00	98.00	98.00	.00
513A	45.90	.20			.23
514	77.12	.00	69.00	86.20	.29
514	19.28	1.00	98.00	98.00	.00
514	96.40	.20			.23
515A	52.80	.00	56.00	75.80	.42
515A	13.20	1.00	98.00	98.00	.00
515A	66.00	.20			.34
515B	34.48	.00	69.00	86.20	.29
515B	8.62	1.00	98.00	98.00	.00
515B	43.10	.20			.23
516A	138.40	.00	56.00	75.80	.42
516A	34.60	1.00	98.00	98.00	.00
516A	173.00	.20			.34
516B	228.80	.00	69.00	86.20	.29
516B	57.20	1.00	98.00	98.00	.00
516B	286.00	.20			.23
517A	77.70	.00	69.00	86.20	.29
517A	33.30	1.00	98.00	98.00	.00
517A	111.00	.30			.20
517B	55.00	.00	69.00	86.20	.29
517B	55.00	1.00	98.00	98.00	.00
517B	110.00	.50			.14
517C	2.67	.00	69.00	86.20	.29
517C	24.03	1.00	98.00	98.00	.00
517C	26.70	.90			.03

WATERSHED 5, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	2976.60
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.278
LOW LOSS FRACTION (Y BAR)	=	.323

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 7.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
501	8.50	.00	78.00
502	9.20	.00	78.00
503A	34.90	.00	78.00
503B	18.40	.20	32.00
504	66.10	.20	32.00
505	192.80	.20	32.00
506A	106.50	.20	32.00
506B	142.30	.20	69.00
507	137.70	.20	69.00
508	156.10	.20	69.00
509	52.30	.20	69.00
510	57.00	.20	69.00
521	7.90	.20	69.00
522	50.00	.20	69.00
523	64.30	.20	69.00
524	42.20	.20	69.00
510A	25.70	.20	69.00
511	127.60	.20	69.00
531A	3.50	.20	32.00
531B	2.50	.20	69.00
532	21.10	.20	69.00
533	53.20	.20	69.00
534	107.40	.20	69.00
535	63.40	.20	69.00
536	72.50	.20	69.00
511A	26.60	.20	69.00
512	180.90	.20	69.00
513	45.90	.20	69.00
541	6.10	.20	69.00
542	135.90	.20	69.00
513A	45.90	.20	69.00
514	96.40	.20	69.00
515A	66.00	.20	56.00
515B	43.10	.20	69.00
516A	173.00	.20	56.00
516B	286.00	.20	69.00
517A	111.00	.30	69.00
517B	110.00	.50	69.00
517C	26.70	.90	69.00
710A	239.00	.30	69.00
710B	40.00	.30	56.00

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 7.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
710C	18.00	.15	77.00
710D	3.00	.15	65.00
710E	14.00	.90	56.00
710F	11.00	.15	77.00
710G	290.00	.30	69.00
710H	12.00	.50	69.00

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 7.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
501	8.50	.00	78.00	92.80	.18
502	9.20	.00	78.00	92.80	.18
503A	34.90	.00	78.00	92.80	.18
503B	14.72	.00	32.00	52.00	.74
503B	3.68	1.00	98.00	98.00	.00
503B	18.40	.20			.59
504	52.88	.00	32.00	52.00	.74
504	13.22	1.00	98.00	98.00	.00
504	66.10	.20			.59
505	154.24	.00	32.00	52.00	.74
505	38.56	1.00	98.00	98.00	.00
505	192.80	.20			.59
506A	85.20	.00	32.00	52.00	.74
506A	21.30	1.00	98.00	98.00	.00
506A	106.50	.20			.59
506B	113.84	.00	69.00	86.20	.29
506B	28.46	1.00	98.00	98.00	.00
506B	142.30	.20			.23
507	110.16	.00	69.00	86.20	.29
507	27.54	1.00	98.00	98.00	.00
507	137.70	.20			.23
508	124.88	.00	69.00	86.20	.29
508	31.22	1.00	98.00	98.00	.00
508	156.10	.20			.23
509	41.84	.00	69.00	86.20	.29
509	10.46	1.00	98.00	98.00	.00
509	52.30	.20			.23
510	45.60	.00	69.00	86.20	.29
510	11.40	1.00	98.00	98.00	.00
510	57.00	.20			.23
521	6.32	.00	69.00	86.20	.29
521	1.58	1.00	98.00	98.00	.00
521	7.90	.20			.23
522	40.00	.00	69.00	86.20	.29
522	10.00	1.00	98.00	98.00	.00
522	50.00	.20			.23
523	51.44	.00	69.00	86.20	.29
523	12.86	1.00	98.00	98.00	.00
523	64.30	.20			.23
524	33.76	.00	69.00	86.20	.29
524	8.44	1.00	98.00	98.00	.00
524	42.20	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 7.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
510A	20.56	.00	69.00	86.20	.29
510A	5.14	1.00	98.00	98.00	.00
510A	25.70	.20			.23
511	102.08	.00	69.00	86.20	.29
511	25.52	1.00	98.00	98.00	.00
511	127.60	.20			.23
531A	2.80	.00	32.00	52.00	.74
531A	.70	1.00	98.00	98.00	.00
531A	3.50	.20			.59
531B	2.00	.00	69.00	86.20	.29
531B	.50	1.00	98.00	98.00	.00
531B	2.50	.20			.23
532	16.88	.00	69.00	86.20	.29
532	4.22	1.00	98.00	98.00	.00
532	21.10	.20			.23
533	42.56	.00	69.00	86.20	.29
533	10.64	1.00	98.00	98.00	.00
533	53.20	.20			.23
534	85.92	.00	69.00	86.20	.29
534	21.48	1.00	98.00	98.00	.00
534	107.40	.20			.23
535	50.72	.00	69.00	86.20	.29
535	12.68	1.00	98.00	98.00	.00
535	63.40	.20			.23
536	58.00	.00	69.00	86.20	.29
536	14.50	1.00	98.00	98.00	.00
536	72.50	.20			.23
511A	21.28	.00	69.00	86.20	.29
511A	5.32	1.00	98.00	98.00	.00
511A	26.60	.20			.23
512	144.72	.00	69.00	86.20	.29
512	36.18	1.00	98.00	98.00	.00
512	180.90	.20			.23
513	36.72	.00	69.00	86.20	.29
513	9.18	1.00	98.00	98.00	.00
513	45.90	.20			.23
541	4.88	.00	69.00	86.20	.29
541	1.22	1.00	98.00	98.00	.00
541	6.10	.20			.23
542	108.72	.00	69.00	86.20	.29
542	27.18	1.00	98.00	98.00	.00
542	135.90	.20			.23

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 7.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
513A	36.72	.00	69.00	86.20	.29
513A	9.18	1.00	98.00	98.00	.00
513A	45.90	.20			.23
514	77.12	.00	69.00	86.20	.29
514	19.28	1.00	98.00	98.00	.00
514	96.40	.20			.23
515A	52.80	.00	56.00	75.80	.42
515A	13.20	1.00	98.00	98.00	.00
515A	66.00	.20			.34
515B	34.48	.00	69.00	86.20	.29
515B	8.62	1.00	98.00	98.00	.00
515B	43.10	.20			.23
516A	138.40	.00	56.00	75.80	.42
516A	34.60	1.00	98.00	98.00	.00
516A	173.00	.20			.34
516B	228.80	.00	69.00	86.20	.29
516B	57.20	1.00	98.00	98.00	.00
516B	286.00	.20			.23
517A	77.70	.00	69.00	86.20	.29
517A	33.30	1.00	98.00	98.00	.00
517A	111.00	.30			.20
517B	55.00	.00	69.00	86.20	.29
517B	55.00	1.00	98.00	98.00	.00
517B	110.00	.50			.14
517C	2.67	.00	69.00	86.20	.29
517C	24.03	1.00	98.00	98.00	.00
517C	26.70	.90			.03
710A	167.30	.00	69.00	86.20	.29
710A	71.70	1.00	98.00	98.00	.00
710A	239.00	.30			.20
710B	28.00	.00	56.00	75.80	.42
710B	12.00	1.00	98.00	98.00	.00
710B	40.00	.30			.29
710C	15.30	.00	77.00	92.20	.19
710C	2.70	1.00	98.00	98.00	.00
710C	18.00	.15			.16
710D	2.55	.00	65.00	83.00	.31
710D	.45	1.00	98.00	98.00	.00
710D	3.00	.15			.27
710E	1.40	.00	56.00	75.80	.42
710E	12.60	1.00	98.00	98.00	.00
710E	14.00	.90			.04

WATERSHED 5, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 7.10

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
710F	9.35	.00	77.00	92.20	.19
710F	1.65	1.00	98.00	98.00	.00
710F	11.00	.15			.16
710G	203.00	.00	69.00	86.20	.29
710G	87.00	1.00	98.00	98.00	.00
710G	290.00	.30			.20
710H	6.00	.00	69.00	86.20	.29
710H	6.00	1.00	98.00	98.00	.00
710H	12.00	.50			.14

WATERSHED 5, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	3603.60
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.265
LOW LOSS FRACTION (Y BAR)	=	.308

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 6, DESIGN MODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 709

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
601	10.00	.20	69.00
602	25.70	.20	69.00
603	70.70	.20	69.00
604A	119.40	.20	69.00
604B	69.80	.20	56.00
605A	284.60	.20	69.00
605B	36.80	.20	56.00
621	10.00	.20	69.00
622	29.40	.20	69.00
623	72.60	.20	69.00
624	107.40	.20	69.00
625A	55.00	.20	56.00
625B	9.30	.20	69.00
605A	24.80	.20	56.00
605B	69.80	.20	69.00
709A	101.00	.30	69.00
709B	11.00	.90	69.00

WATERSHED 6, DESIGN MODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 709

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
601	8.00	.00	69.00	86.20	.29
601	2.00	1.00	98.00	98.00	.00
601	10.00	.20			.23
602	20.56	.00	69.00	86.20	.29
602	5.14	1.00	98.00	98.00	.00
602	25.70	.20			.23
603	56.56	.00	69.00	86.20	.29
603	14.14	1.00	98.00	98.00	.00
603	70.70	.20			.23
604A	95.52	.00	69.00	86.20	.29
604A	23.88	1.00	98.00	98.00	.00
604A	119.40	.20			.23
604B	55.84	.00	56.00	75.80	.42
604B	13.96	1.00	98.00	98.00	.00
604B	69.80	.20			.34
605A	227.68	.00	69.00	86.20	.29
605A	56.92	1.00	98.00	98.00	.00
605A	284.60	.20			.23
605B	29.44	.00	56.00	75.80	.42
605B	7.36	1.00	98.00	98.00	.00
605B	36.80	.20			.34
621	8.00	.00	69.00	86.20	.29
621	2.00	1.00	98.00	98.00	.00
621	10.00	.20			.23
622	23.52	.00	69.00	86.20	.29
622	5.88	1.00	98.00	98.00	.00
622	29.40	.20			.23
623	58.08	.00	69.00	86.20	.29
623	14.52	1.00	98.00	98.00	.00
623	72.60	.20			.23
624	85.92	.00	69.00	86.20	.29
624	21.48	1.00	98.00	98.00	.00
624	107.40	.20			.23
625A	44.00	.00	56.00	75.80	.42
625A	11.00	1.00	98.00	98.00	.00
625A	55.00	.20			.34
625B	7.44	.00	69.00	86.20	.29
625B	1.86	1.00	98.00	98.00	.00
625B	9.30	.20			.23
605A	19.84	.00	56.00	75.80	.42
605A	4.96	1.00	98.00	98.00	.00
605A	24.80	.20			.34

WATERSHED 6, DESIGN MODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 709

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
605B	55.84	.00	69.00	86.20	.29
605B	13.96	1.00	98.00	98.00	.00
605B	69.80	.20			.23
709A	70.70	.00	69.00	86.20	.29
709A	30.30	1.00	98.00	98.00	.00
709A	101.00	.30			.20
709B	1.10	.00	69.00	86.20	.29
709B	9.90	1.00	98.00	98.00	.00
709B	11.00	.90			.03

WATERSHED 6, DESIGN MODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1107.30
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.243
LOW LOSS FRACTION (Y BAR)	=	.284

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 7, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 7.08

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
701	10.00	.20	69.00
702	20.00	.20	69.00
703	42.20	.20	69.00
704	200.20	.20	69.00
705	78.10	.20	69.00
706	73.50	.20	69.00
707	36.70	.20	69.00
708	508.70	.20	69.00

WATERSHED 7, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 7.08

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
701	8.00	.00	69.00	86.20	.29
701	2.00	1.00	98.00	98.00	.00
701	10.00	.20			.23
702	16.00	.00	69.00	86.20	.29
702	4.00	1.00	98.00	98.00	.00
702	20.00	.20			.23
703	33.76	.00	69.00	86.20	.29
703	8.44	1.00	98.00	98.00	.00
703	42.20	.20			.23
704	160.16	.00	69.00	86.20	.29
704	40.04	1.00	98.00	98.00	.00
704	200.20	.20			.23
705	62.48	.00	69.00	86.20	.29
705	15.62	1.00	98.00	98.00	.00
705	78.10	.20			.23
706	58.80	.00	69.00	86.20	.29
706	14.70	1.00	98.00	98.00	.00
706	73.50	.20			.23
707	29.36	.00	69.00	86.20	.29
707	7.34	1.00	98.00	98.00	.00
707	36.70	.20			.23
708	406.96	.00	69.00	86.20	.29
708	101.74	1.00	98.00	98.00	.00
708	508.70	.20			.23

WATERSHED 7, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	969.40
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.230
LOW LOSS FRACTION (Y BAR)	=	.262

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 7, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 7.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
701	10.00	.20	69.00
702	20.00	.20	69.00
703	42.20	.20	69.00
704	200.20	.20	69.00
705	78.10	.20	69.00
706	73.50	.20	69.00
707	36.70	.20	69.00
708	508.70	.20	69.00
709A	12.20	.90	69.00
709B	101.00	.50	69.00
709C	78.90	.30	69.00

WATERSHED 7, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 7.09

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
701	8.00	.00	69.00	86.20	.29
701	2.00	1.00	98.00	98.00	.00
701	10.00	.20			.23
702	16.00	.00	69.00	86.20	.29
702	4.00	1.00	98.00	98.00	.00
702	20.00	.20			.23
703	33.76	.00	69.00	86.20	.29
703	8.44	1.00	98.00	98.00	.00
703	42.20	.20			.23
704	160.16	.00	69.00	86.20	.29
704	40.04	1.00	98.00	98.00	.00
704	200.20	.20			.23
705	62.48	.00	69.00	86.20	.29
705	15.62	1.00	98.00	98.00	.00
705	78.10	.20			.23
706	58.80	.00	69.00	86.20	.29
706	14.70	1.00	98.00	98.00	.00
706	73.50	.20			.23
707	29.36	.00	69.00	86.20	.29
707	7.34	1.00	98.00	98.00	.00
707	36.70	.20			.23
708	406.96	.00	69.00	86.20	.29
708	101.74	1.00	98.00	98.00	.00
708	508.70	.20			.23
709A	1.22	.00	69.00	86.20	.29
709A	10.98	1.00	98.00	98.00	.00
709A	12.20	.90			.03
709B	50.50	.00	69.00	86.20	.29
709B	50.50	1.00	98.00	98.00	.00
709B	101.00	.50			.14
709C	55.23	.00	69.00	86.20	.29
709C	23.67	1.00	98.00	98.00	.00
709C	78.90	.30			.20

WATERSHED 7, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1161.50
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.218
LOW LOSS FRACTION (Y BAR)	=	.251

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 806

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 806

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	733.00
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.246
LOW LOSS FRACTION (Y BAR)	=	.281

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 808

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 808

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 808

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1119.50
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.240
LOW LOSS FRACTION (Y BAR)	=	.274

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 809

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00
809	172.00	.20	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 809

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 809

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23
809	137.60	.00	69.00	86.20	.29
809	34.40	1.00	98.00	98.00	.00
809	172.00	.20			.23

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1291.50
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.239
LOW LOSS FRACTION (Y BAR)	=	.272

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 811

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00
809	172.00	.20	69.00
810	303.00	.20	69.00
811	93.60	.20	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 811

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 811

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23
809	137.60	.00	69.00	86.20	.29
809	34.40	1.00	98.00	98.00	.00
809	172.00	.20			.23
810	242.40	.00	69.00	86.20	.29
810	60.60	1.00	98.00	98.00	.00
810	303.00	.20			.23
811	74.88	.00	69.00	86.20	.29
811	18.72	1.00	98.00	98.00	.00
811	93.60	.20			.23

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	1688.10
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.237
LOW LOSS FRACTION (Y BAR)	=	.270

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 812

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00
809	172.00	.20	69.00
810	303.00	.20	69.00
811	93.60	.20	69.00
812	404.00	.20	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 812

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 812

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23
809	137.60	.00	69.00	86.20	.29
809	34.40	1.00	98.00	98.00	.00
809	172.00	.20			.23
810	242.40	.00	69.00	86.20	.29
810	60.60	1.00	98.00	98.00	.00
810	303.00	.20			.23
811	74.88	.00	69.00	86.20	.29
811	18.72	1.00	98.00	98.00	.00
811	93.60	.20			.23
812	323.20	.00	69.00	86.20	.29
812	80.80	1.00	98.00	98.00	.00
812	404.00	.20			.23

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	2092.10
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.235
LOW LOSS FRACTION (Y BAR)	=	.268

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 813

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00
809	172.00	.20	69.00
810	303.00	.20	69.00
811	93.60	.20	69.00
812	404.00	.20	69.00
813A	174.50	.20	69.00
831	10.00	.20	32.00
832	36.70	.20	32.00
833A	10.10	.20	32.00
833B	34.00	.20	69.00
834	52.40	.20	69.00
835	146.90	.20	69.00
836	358.10	.20	69.00
837	362.70	.20	69.00
838	330.60	.20	69.00
839	550.00	.20	69.00
813B	82.50	.20	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 813

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 813

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23
809	137.60	.00	69.00	86.20	.29
809	34.40	1.00	98.00	98.00	.00
809	172.00	.20			.23
810	242.40	.00	69.00	86.20	.29
810	60.60	1.00	98.00	98.00	.00
810	303.00	.20			.23
811	74.88	.00	69.00	86.20	.29
811	18.72	1.00	98.00	98.00	.00
811	93.60	.20			.23
812	323.20	.00	69.00	86.20	.29
812	80.80	1.00	98.00	98.00	.00
812	404.00	.20			.23
813A	139.60	.00	69.00	86.20	.29
813A	34.90	1.00	98.00	98.00	.00
813A	174.50	.20			.23
831	8.00	.00	32.00	52.00	.74
831	2.00	1.00	98.00	98.00	.00
831	10.00	.20			.59
832	29.36	.00	32.00	52.00	.74
832	7.34	1.00	98.00	98.00	.00
832	36.70	.20			.59
833A	8.08	.00	32.00	52.00	.74
833A	2.02	1.00	98.00	98.00	.00
833A	10.10	.20			.59
833B	27.20	.00	69.00	86.20	.29
833B	6.80	1.00	98.00	98.00	.00
833B	34.00	.20			.23
834	41.92	.00	69.00	86.20	.29
834	10.48	1.00	98.00	98.00	.00
834	52.40	.20			.23
835	117.52	.00	69.00	86.20	.29
835	29.38	1.00	98.00	98.00	.00
835	146.90	.20			.23
836	286.48	.00	69.00	86.20	.29
836	71.62	1.00	98.00	98.00	.00
836	358.10	.20			.23
837	290.16	.00	69.00	86.20	.29
837	72.54	1.00	98.00	98.00	.00
837	362.70	.20			.23

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 813

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
838	264.48	.00	69.00	86.20	.29
838	66.12	1.00	98.00	98.00	.00
838	330.60	.20			.23
839	440.00	.00	69.00	86.20	.29
839	110.00	1.00	98.00	98.00	.00
839	550.00	.20			.23
813B	66.00	.00	69.00	86.20	.29
813B	16.50	1.00	98.00	98.00	.00
813B	82.50	.20			.23

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	4240.60
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.237
LOW LOSS FRACTION (Y BAR)	=	.271

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 814

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00
809	172.00	.20	69.00
810	303.00	.20	69.00
811	93.60	.20	69.00
812	404.00	.20	69.00
813A	174.50	.20	69.00
831	10.00	.20	32.00
832	36.70	.20	32.00
833A	10.10	.20	32.00
833B	34.00	.20	69.00
834	52.40	.20	69.00
835	146.90	.20	69.00
836	358.10	.20	69.00
837	362.70	.20	69.00
838	330.60	.20	69.00
839	550.00	.20	69.00
813B	82.50	.20	69.00
814	122.10	.20	69.00
841	9.00	.20	69.00
842	56.90	.20	69.00
843	94.60	.20	69.00
814A	161.60	.20	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 814

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 814

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23
809	137.60	.00	69.00	86.20	.29
809	34.40	1.00	98.00	98.00	.00
809	172.00	.20			.23
810	242.40	.00	69.00	86.20	.29
810	60.60	1.00	98.00	98.00	.00
810	303.00	.20			.23
811	74.88	.00	69.00	86.20	.29
811	18.72	1.00	98.00	98.00	.00
811	93.60	.20			.23
812	323.20	.00	69.00	86.20	.29
812	80.80	1.00	98.00	98.00	.00
812	404.00	.20			.23
813A	139.60	.00	69.00	86.20	.29
813A	34.90	1.00	98.00	98.00	.00
813A	174.50	.20			.23
831	8.00	.00	32.00	52.00	.74
831	2.00	1.00	98.00	98.00	.00
831	10.00	.20			.59
832	29.36	.00	32.00	52.00	.74
832	7.34	1.00	98.00	98.00	.00
832	36.70	.20			.59
833A	8.08	.00	32.00	52.00	.74
833A	2.02	1.00	98.00	98.00	.00
833A	10.10	.20			.59
833B	27.20	.00	69.00	86.20	.29
833B	6.80	1.00	98.00	98.00	.00
833B	34.00	.20			.23
834	41.92	.00	69.00	86.20	.29
834	10.48	1.00	98.00	98.00	.00
834	52.40	.20			.23
835	117.52	.00	69.00	86.20	.29
835	29.38	1.00	98.00	98.00	.00
835	146.90	.20			.23
836	286.48	.00	69.00	86.20	.29
836	71.62	1.00	98.00	98.00	.00
836	358.10	.20			.23
837	290.16	.00	69.00	86.20	.29
837	72.54	1.00	98.00	98.00	.00
837	362.70	.20			.23

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 814

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
838	264.48	.00	69.00	86.20	.29
838	66.12	1.00	98.00	98.00	.00
838	330.60	.20			.23
839	440.00	.00	69.00	86.20	.29
839	110.00	1.00	98.00	98.00	.00
839	550.00	.20			.23
813B	66.00	.00	69.00	86.20	.29
813B	16.50	1.00	98.00	98.00	.00
813B	82.50	.20			.23
814	97.68	.00	69.00	86.20	.29
814	24.42	1.00	98.00	98.00	.00
814	122.10	.20			.23
841	7.20	.00	69.00	86.20	.29
841	1.80	1.00	98.00	98.00	.00
841	9.00	.20			.23
842	45.52	.00	69.00	86.20	.29
842	11.38	1.00	98.00	98.00	.00
842	56.90	.20			.23
843	75.68	.00	69.00	86.20	.29
843	18.92	1.00	98.00	98.00	.00
843	94.60	.20			.23
814A	129.28	.00	69.00	86.20	.29
814A	32.32	1.00	98.00	98.00	.00
814A	161.60	.20			.23

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	4684.80
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.237
LOW LOSS FRACTION (Y BAR)	=	.270

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 815

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00
809	172.00	.20	69.00
810	303.00	.20	69.00
811	93.60	.20	69.00
812	404.00	.20	69.00
813A	174.50	.20	69.00
831	10.00	.20	32.00
832	36.70	.20	32.00
833A	10.10	.20	32.00
833B	34.00	.20	69.00
834	52.40	.20	69.00
835	146.90	.20	69.00
836	358.10	.20	69.00
837	362.70	.20	69.00
838	330.60	.20	69.00
839	550.00	.20	69.00
813B	82.50	.20	69.00
814	122.10	.20	69.00
841	9.00	.20	69.00
842	56.90	.20	69.00
843	94.60	.20	69.00
814A	161.60	.20	69.00
815	367.30	.20	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 815

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 815

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23
809	137.60	.00	69.00	86.20	.29
809	34.40	1.00	98.00	98.00	.00
809	172.00	.20			.23
810	242.40	.00	69.00	86.20	.29
810	60.60	1.00	98.00	98.00	.00
810	303.00	.20			.23
811	74.88	.00	69.00	86.20	.29
811	18.72	1.00	98.00	98.00	.00
811	93.60	.20			.23
812	323.20	.00	69.00	86.20	.29
812	80.80	1.00	98.00	98.00	.00
812	404.00	.20			.23
813A	139.60	.00	69.00	86.20	.29
813A	34.90	1.00	98.00	98.00	.00
813A	174.50	.20			.23
831	8.00	.00	32.00	52.00	.74
831	2.00	1.00	98.00	98.00	.00
831	10.00	.20			.59
832	29.36	.00	32.00	52.00	.74
832	7.34	1.00	98.00	98.00	.00
832	36.70	.20			.59
833A	8.08	.00	32.00	52.00	.74
833A	2.02	1.00	98.00	98.00	.00
833A	10.10	.20			.59
833B	27.20	.00	69.00	86.20	.29
833B	6.80	1.00	98.00	98.00	.00
833B	34.00	.20			.23
834	41.92	.00	69.00	86.20	.29
834	10.48	1.00	98.00	98.00	.00
834	52.40	.20			.23
835	117.52	.00	69.00	86.20	.29
835	29.38	1.00	98.00	98.00	.00
835	146.90	.20			.23
836	286.48	.00	69.00	86.20	.29
836	71.62	1.00	98.00	98.00	.00
836	358.10	.20			.23
837	290.16	.00	69.00	86.20	.29
837	72.54	1.00	98.00	98.00	.00
837	362.70	.20			.23

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 815

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
838	264.48	.00	69.00	86.20	.29
838	66.12	1.00	98.00	98.00	.00
838	330.60	.20			.23
839	440.00	.00	69.00	86.20	.29
839	110.00	1.00	98.00	98.00	.00
839	550.00	.20			.23
813B	66.00	.00	69.00	86.20	.29
813B	16.50	1.00	98.00	98.00	.00
813B	82.50	.20			.23
814	97.68	.00	69.00	86.20	.29
814	24.42	1.00	98.00	98.00	.00
814	122.10	.20			.23
841	7.20	.00	69.00	86.20	.29
841	1.80	1.00	98.00	98.00	.00
841	9.00	.20			.23
842	45.52	.00	69.00	86.20	.29
842	11.38	1.00	98.00	98.00	.00
842	56.90	.20			.23
843	75.68	.00	69.00	86.20	.29
843	18.92	1.00	98.00	98.00	.00
843	94.60	.20			.23
814A	129.28	.00	69.00	86.20	.29
814A	32.32	1.00	98.00	98.00	.00
814A	161.60	.20			.23
815	293.84	.00	69.00	86.20	.29
815	73.46	1.00	98.00	98.00	.00
815	367.30	.20			.23

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	5052.10
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.236
LOW LOSS FRACTION (Y BAR)	=	.269

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 816

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00
809	172.00	.20	69.00
810	303.00	.20	69.00
811	93.60	.20	69.00
812	404.00	.20	69.00
813A	174.50	.20	69.00
831	10.00	.20	32.00
832	36.70	.20	32.00
833A	10.10	.20	32.00
833B	34.00	.20	69.00
834	52.40	.20	69.00
835	146.90	.20	69.00
836	358.10	.20	69.00
837	362.70	.20	69.00
838	330.60	.20	69.00
839	550.00	.20	69.00
813B	82.50	.20	69.00
814	122.10	.20	69.00
841	9.00	.20	69.00
842	56.90	.20	69.00
843	94.60	.20	69.00
814A	161.60	.20	69.00
815	367.30	.20	69.00
816A	104.70	.90	69.00
816B	269.60	.30	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 816

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
816C	120.30	.50	69.00
816D	17.40	.15	77.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 816

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 816

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23
809	137.60	.00	69.00	86.20	.29
809	34.40	1.00	98.00	98.00	.00
809	172.00	.20			.23
810	242.40	.00	69.00	86.20	.29
810	60.60	1.00	98.00	98.00	.00
810	303.00	.20			.23
811	74.88	.00	69.00	86.20	.29
811	18.72	1.00	98.00	98.00	.00
811	93.60	.20			.23
812	323.20	.00	69.00	86.20	.29
812	80.80	1.00	98.00	98.00	.00
812	404.00	.20			.23
813A	139.60	.00	69.00	86.20	.29
813A	34.90	1.00	98.00	98.00	.00
813A	174.50	.20			.23
831	8.00	.00	32.00	52.00	.74
831	2.00	1.00	98.00	98.00	.00
831	10.00	.20			.59
832	29.36	.00	32.00	52.00	.74
832	7.34	1.00	98.00	98.00	.00
832	36.70	.20			.59
833A	8.08	.00	32.00	52.00	.74
833A	2.02	1.00	98.00	98.00	.00
833A	10.10	.20			.59
833B	27.20	.00	69.00	86.20	.29
833B	6.80	1.00	98.00	98.00	.00
833B	34.00	.20			.23
834	41.92	.00	69.00	86.20	.29
834	10.48	1.00	98.00	98.00	.00
834	52.40	.20			.23
835	117.52	.00	69.00	86.20	.29
835	29.38	1.00	98.00	98.00	.00
835	146.90	.20			.23
836	286.48	.00	69.00	86.20	.29
836	71.62	1.00	98.00	98.00	.00
836	358.10	.20			.23
837	290.16	.00	69.00	86.20	.29
837	72.54	1.00	98.00	98.00	.00
837	362.70	.20			.23

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 816

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
838	264.48	.00	69.00	86.20	.29
838	66.12	1.00	98.00	98.00	.00
838	330.60	.20			.23
839	440.00	.00	69.00	86.20	.29
839	110.00	1.00	98.00	98.00	.00
839	550.00	.20			.23
813B	66.00	.00	69.00	86.20	.29
813B	16.50	1.00	98.00	98.00	.00
813B	82.50	.20			.23
814	97.68	.00	69.00	86.20	.29
814	24.42	1.00	98.00	98.00	.00
814	122.10	.20			.23
841	7.20	.00	69.00	86.20	.29
841	1.80	1.00	98.00	98.00	.00
841	9.00	.20			.23
842	45.52	.00	69.00	86.20	.29
842	11.38	1.00	98.00	98.00	.00
842	56.90	.20			.23
843	75.68	.00	69.00	86.20	.29
843	18.92	1.00	98.00	98.00	.00
843	94.60	.20			.23
814A	129.28	.00	69.00	86.20	.29
814A	32.32	1.00	98.00	98.00	.00
814A	161.60	.20			.23
815	293.84	.00	69.00	86.20	.29
815	73.46	1.00	98.00	98.00	.00
815	367.30	.20			.23
816A	10.47	.00	69.00	86.20	.29
816A	94.23	1.00	98.00	98.00	.00
816A	104.70	.90			.03
816B	188.72	.00	69.00	86.20	.29
816B	80.88	1.00	98.00	98.00	.00
816B	269.60	.30			.20
816C	60.15	.00	69.00	86.20	.29
816C	60.15	1.00	98.00	98.00	.00
816C	120.30	.50			.14
816D	14.79	.00	77.00	92.20	.19
816D	2.61	1.00	98.00	98.00	.00
816D	17.40	.15			.16

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	5564.10
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.228
LOW LOSS FRACTION (Y BAR)	=	.262

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 817

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00
809	172.00	.20	69.00
810	303.00	.20	69.00
811	93.60	.20	69.00
812	404.00	.20	69.00
813A	174.50	.20	69.00
831	10.00	.20	32.00
832	36.70	.20	32.00
833A	10.10	.20	32.00
833B	34.00	.20	69.00
834	52.40	.20	69.00
835	146.90	.20	69.00
836	358.10	.20	69.00
837	362.70	.20	69.00
838	330.60	.20	69.00
839	550.00	.20	69.00
813B	82.50	.20	69.00
814	122.10	.20	69.00
841	9.00	.20	69.00
842	56.90	.20	69.00
843	94.60	.20	69.00
814A	161.60	.20	69.00
815	367.30	.20	69.00
816A	104.70	.90	69.00
816B	269.60	.30	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 817

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
816C	120.30	.15	77.00
816D	17.40	.15	77.00
817A	180.80	.90	69.00
817B	11.10	.50	69.00
817C	165.30	.15	77.00
871	5.50	.50	69.00
872A	2.80	.90	69.00
872B	28.60	.50	69.00
873A	26.10	.90	69.00
873B	44.00	.50	69.00
873C	37.30	.30	69.00
874A	3.40	.90	69.00
874B	44.00	.50	69.00
874C	119.00	.30	69.00
874D	7.10	.15	77.00
875A	223.90	.90	69.00
875B	81.90	.50	69.00
875C	244.00	.30	69.00
875D	36.90	.15	77.00
817D	6.00	.30	69.00
817E	22.00	.50	69.00
817F	101.00	.90	69.00
817G	90.50	.15	77.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 817

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 817

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23
809	137.60	.00	69.00	86.20	.29
809	34.40	1.00	98.00	98.00	.00
809	172.00	.20			.23
810	242.40	.00	69.00	86.20	.29
810	60.60	1.00	98.00	98.00	.00
810	303.00	.20			.23
811	74.88	.00	69.00	86.20	.29
811	18.72	1.00	98.00	98.00	.00
811	93.60	.20			.23
812	323.20	.00	69.00	86.20	.29
812	80.80	1.00	98.00	98.00	.00
812	404.00	.20			.23
813A	139.60	.00	69.00	86.20	.29
813A	34.90	1.00	98.00	98.00	.00
813A	174.50	.20			.23
831	8.00	.00	32.00	52.00	.74
831	2.00	1.00	98.00	98.00	.00
831	10.00	.20			.59
832	29.36	.00	32.00	52.00	.74
832	7.34	1.00	98.00	98.00	.00
832	36.70	.20			.59
833A	8.08	.00	32.00	52.00	.74
833A	2.02	1.00	98.00	98.00	.00
833A	10.10	.20			.59
833B	27.20	.00	69.00	86.20	.29
833B	6.80	1.00	98.00	98.00	.00
833B	34.00	.20			.23
834	41.92	.00	69.00	86.20	.29
834	10.48	1.00	98.00	98.00	.00
834	52.40	.20			.23
835	117.52	.00	69.00	86.20	.29
835	29.38	1.00	98.00	98.00	.00
835	146.90	.20			.23
836	286.48	.00	69.00	86.20	.29
836	71.62	1.00	98.00	98.00	.00
836	358.10	.20			.23
837	290.16	.00	69.00	86.20	.29
837	72.54	1.00	98.00	98.00	.00
837	362.70	.20			.23

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 817

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
838	264.48	.00	69.00	86.20	.29
838	66.12	1.00	98.00	98.00	.00
838	330.60	.20			.23
839	440.00	.00	69.00	86.20	.29
839	110.00	1.00	98.00	98.00	.00
839	550.00	.20			.23
813B	66.00	.00	69.00	86.20	.29
813B	16.50	1.00	98.00	98.00	.00
813B	82.50	.20			.23
814	97.68	.00	69.00	86.20	.29
814	24.42	1.00	98.00	98.00	.00
814	122.10	.20			.23
841	7.20	.00	69.00	86.20	.29
841	1.80	1.00	98.00	98.00	.00
841	9.00	.20			.23
842	45.52	.00	69.00	86.20	.29
842	11.38	1.00	98.00	98.00	.00
842	56.90	.20			.23
843	75.68	.00	69.00	86.20	.29
843	18.92	1.00	98.00	98.00	.00
843	94.60	.20			.23
814A	129.28	.00	69.00	86.20	.29
814A	32.32	1.00	98.00	98.00	.00
814A	161.60	.20			.23
815	293.84	.00	69.00	86.20	.29
815	73.46	1.00	98.00	98.00	.00
815	367.30	.20			.23
816A	10.47	.00	69.00	86.20	.29
816A	94.23	1.00	98.00	98.00	.00
816A	104.70	.90			.03
816B	188.72	.00	69.00	86.20	.29
816B	80.88	1.00	98.00	98.00	.00
816B	269.60	.30			.20
816C	102.26	.00	77.00	92.20	.19
816C	18.05	1.00	98.00	98.00	.00
816C	120.30	.15			.16
816D	14.79	.00	77.00	92.20	.19
816D	2.61	1.00	98.00	98.00	.00
816D	17.40	.15			.16
817A	18.08	.00	69.00	86.20	.29
817A	162.72	1.00	98.00	98.00	.00
817A	180.80	.90			.03

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 817

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
817B	5.55	.00	69.00	86.20	.29
817B	5.55	1.00	98.00	98.00	.00
817B	11.10	.50			.14
817C	140.51	.00	77.00	92.20	.19
817C	24.80	1.00	98.00	98.00	.00
817C	165.30	.15			.16
871	2.75	.00	69.00	86.20	.29
871	2.75	1.00	98.00	98.00	.00
871	5.50	.50			.14
872A	.28	.00	69.00	86.20	.29
872A	2.52	1.00	98.00	98.00	.00
872A	2.80	.90			.03
872B	14.30	.00	69.00	86.20	.29
872B	14.30	1.00	98.00	98.00	.00
872B	28.60	.50			.14
873A	2.61	.00	69.00	86.20	.29
873A	23.49	1.00	98.00	98.00	.00
873A	26.10	.90			.03
873B	22.00	.00	69.00	86.20	.29
873B	22.00	1.00	98.00	98.00	.00
873B	44.00	.50			.14
873C	26.11	.00	69.00	86.20	.29
873C	11.19	1.00	98.00	98.00	.00
873C	37.30	.30			.20
874A	.34	.00	69.00	86.20	.29
874A	3.06	1.00	98.00	98.00	.00
874A	3.40	.90			.03
874B	22.00	.00	69.00	86.20	.29
874B	22.00	1.00	98.00	98.00	.00
874B	44.00	.50			.14
874C	83.30	.00	69.00	86.20	.29
874C	35.70	1.00	98.00	98.00	.00
874C	119.00	.30			.20
874D	6.03	.00	77.00	92.20	.19
874D	1.07	1.00	98.00	98.00	.00
874D	7.10	.15			.16
875A	22.39	.00	69.00	86.20	.29
875A	201.51	1.00	98.00	98.00	.00
875A	223.90	.90			.03
875B	40.95	.00	69.00	86.20	.29
875B	40.95	1.00	98.00	98.00	.00
875B	81.90	.50			.14

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 817

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
875C	170.80	.00	69.00	86.20	.29
875C	73.20	1.00	98.00	98.00	.00
875C	244.00	.30			.20
875D	31.37	.00	77.00	92.20	.19
875D	5.54	1.00	98.00	98.00	.00
875D	36.90	.15			.16
817D	4.20	.00	69.00	86.20	.29
817D	1.80	1.00	98.00	98.00	.00
817D	6.00	.30			.20
817E	11.00	.00	69.00	86.20	.29
817E	11.00	1.00	98.00	98.00	.00
817E	22.00	.50			.14
817F	10.10	.00	69.00	86.20	.29
817F	90.90	1.00	98.00	98.00	.00
817F	101.00	.90			.03
817G	76.93	.00	77.00	92.20	.19
817G	13.58	1.00	98.00	98.00	.00
817G	90.50	.15			.16

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	7045.30
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.206
LOW LOSS FRACTION (Y BAR)	=	.239

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 711

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
801	9.00	.15	77.00
802	82.00	.15	77.00
803	90.00	.15	77.00
804A	116.70	.15	77.00
804B	21.00	.15	44.00
805	55.10	.15	44.00
821	10.00	.15	77.00
822	110.20	.15	77.00
805A	113.80	.15	44.00
861	5.00	.00	91.00
862	26.60	.00	91.00
805B	39.00	.00	91.00
805C	5.00	.00	78.00
806A	37.60	.20	69.00
806B	12.00	.20	32.00
807	173.50	.20	69.00
808	213.00	.20	69.00
809	172.00	.20	69.00
810	303.00	.20	69.00
811	93.60	.20	69.00
812	404.00	.20	69.00
813A	174.50	.20	69.00
831	10.00	.20	32.00
832	36.70	.20	32.00
833A	10.10	.20	32.00
833B	34.00	.20	69.00
834	52.40	.20	69.00
835	146.90	.20	69.00
836	358.10	.20	69.00
837	362.70	.20	69.00
838	330.60	.20	69.00
839	550.00	.20	69.00
813B	82.50	.20	69.00
814	122.10	.20	69.00
841	9.00	.20	69.00
842	56.90	.20	69.00
843	94.60	.20	69.00
814A	161.60	.20	69.00
815	367.30	.20	69.00
816A	104.70	.90	69.00
816B	269.60	.30	69.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 711

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
816C	120.30	.15	77.00
816D	17.40	.15	77.00
817A	180.80	.90	69.00
817B	11.10	.50	69.00
817C	165.30	.15	77.00
871	5.50	.50	69.00
872A	2.80	.90	69.00
872B	28.60	.50	69.00
873A	26.10	.90	69.00
873B	44.00	.50	69.00
873C	37.30	.30	69.00
874A	3.40	.90	69.00
874B	44.00	.50	69.00
874C	119.00	.30	69.00
874D	7.10	.15	77.00
875A	223.90	.90	69.00
875B	81.90	.50	69.00
875C	244.00	.30	69.00
875D	36.90	.15	77.00
817D	6.00	.30	69.00
817E	22.00	.50	69.00
817F	101.00	.90	69.00
817G	90.50	.15	77.00
711A	87.80	.90	56.00
711B	22.00	.90	69.00
711H	550.90	.90	69.00
711J	85.40	.30	69.00
711I	89.10	.15	77.00

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 711

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
801	7.65	.00	77.00	92.20	.19
801	1.35	1.00	98.00	98.00	.00
801	9.00	.15			.16
802	69.70	.00	77.00	92.20	.19
802	12.30	1.00	98.00	98.00	.00
802	82.00	.15			.16
803	76.50	.00	77.00	92.20	.19
803	13.50	1.00	98.00	98.00	.00
803	90.00	.15			.16
804A	99.19	.00	77.00	92.20	.19
804A	17.51	1.00	98.00	98.00	.00
804A	116.70	.15			.16
804B	17.85	.00	44.00	64.00	.57
804B	3.15	1.00	98.00	98.00	.00
804B	21.00	.15			.48
805	46.83	.00	44.00	64.00	.57
805	8.27	1.00	98.00	98.00	.00
805	55.10	.15			.48
821	8.50	.00	77.00	92.20	.19
821	1.50	1.00	98.00	98.00	.00
821	10.00	.15			.16
822	93.67	.00	77.00	92.20	.19
822	16.53	1.00	98.00	98.00	.00
822	110.20	.15			.16
805A	96.73	.00	44.00	64.00	.57
805A	17.07	1.00	98.00	98.00	.00
805A	113.80	.15			.48
861	5.00	.00	91.00	98.20	.06
862	26.60	.00	91.00	98.20	.06
805B	39.00	.00	91.00	98.20	.06
805C	5.00	.00	78.00	92.80	.18
806A	30.08	.00	69.00	86.20	.29
806A	7.52	1.00	98.00	98.00	.00
806A	37.60	.20			.23
806B	9.60	.00	32.00	52.00	.74
806B	2.40	1.00	98.00	98.00	.00
806B	12.00	.20			.59
807	138.80	.00	69.00	86.20	.29
807	34.70	1.00	98.00	98.00	.00
807	173.50	.20			.23
808	170.40	.00	69.00	86.20	.29

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 711

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
808	42.60	1.00	98.00	98.00	.00
808	213.00	.20			.23
809	137.60	.00	69.00	86.20	.29
809	34.40	1.00	98.00	98.00	.00
809	172.00	.20			.23
810	242.40	.00	69.00	86.20	.29
810	60.60	1.00	98.00	98.00	.00
810	303.00	.20			.23
811	74.88	.00	69.00	86.20	.29
811	18.72	1.00	98.00	98.00	.00
811	93.60	.20			.23
812	323.20	.00	69.00	86.20	.29
812	80.80	1.00	98.00	98.00	.00
812	404.00	.20			.23
813A	139.60	.00	69.00	86.20	.29
813A	34.90	1.00	98.00	98.00	.00
813A	174.50	.20			.23
831	8.00	.00	32.00	52.00	.74
831	2.00	1.00	98.00	98.00	.00
831	10.00	.20			.59
832	29.36	.00	32.00	52.00	.74
832	7.34	1.00	98.00	98.00	.00
832	36.70	.20			.59
833A	8.08	.00	32.00	52.00	.74
833A	2.02	1.00	98.00	98.00	.00
833A	10.10	.20			.59
833B	27.20	.00	69.00	86.20	.29
833B	6.80	1.00	98.00	98.00	.00
833B	34.00	.20			.23
834	41.92	.00	69.00	86.20	.29
834	10.48	1.00	98.00	98.00	.00
834	52.40	.20			.23
835	117.52	.00	69.00	86.20	.29
835	29.38	1.00	98.00	98.00	.00
835	146.90	.20			.23
836	286.48	.00	69.00	86.20	.29
836	71.62	1.00	98.00	98.00	.00
836	358.10	.20			.23
837	290.16	.00	69.00	86.20	.29
837	72.54	1.00	98.00	98.00	.00
837	362.70	.20			.23

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 711

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
838	264.48	.00	69.00	86.20	.29
838	66.12	1.00	98.00	98.00	.00
838	330.60	.20			.23
839	440.00	.00	69.00	86.20	.29
839	110.00	1.00	98.00	98.00	.00
839	550.00	.20			.23
813B	66.00	.00	69.00	86.20	.29
813B	16.50	1.00	98.00	98.00	.00
813B	82.50	.20			.23
814	97.68	.00	69.00	86.20	.29
814	24.42	1.00	98.00	98.00	.00
814	122.10	.20			.23
841	7.20	.00	69.00	86.20	.29
841	1.80	1.00	98.00	98.00	.00
841	9.00	.20			.23
842	45.52	.00	69.00	86.20	.29
842	11.38	1.00	98.00	98.00	.00
842	56.90	.20			.23
843	75.68	.00	69.00	86.20	.29
843	18.92	1.00	98.00	98.00	.00
843	94.60	.20			.23
814A	129.28	.00	69.00	86.20	.29
814A	32.32	1.00	98.00	98.00	.00
814A	161.60	.20			.23
815	293.84	.00	69.00	86.20	.29
815	73.46	1.00	98.00	98.00	.00
815	367.30	.20			.23
816A	10.47	.00	69.00	86.20	.29
816A	94.23	1.00	98.00	98.00	.00
816A	104.70	.90			.03
816B	188.72	.00	69.00	86.20	.29
816B	80.88	1.00	98.00	98.00	.00
816B	269.60	.30			.20
816C	102.26	.00	77.00	92.20	.19
816C	18.05	1.00	98.00	98.00	.00
816C	120.30	.15			.16
816D	14.79	.00	77.00	92.20	.19
816D	2.61	1.00	98.00	98.00	.00
816D	17.40	.15			.16
817A	18.08	.00	69.00	86.20	.29
817A	162.72	1.00	98.00	98.00	.00
817A	180.80	.90			.03

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 711

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
817B	5.55	.00	69.00	86.20	.29
817B	5.55	1.00	98.00	98.00	.00
817B	11.10	.50			.14
817C	140.51	.00	77.00	92.20	.19
817C	24.80	1.00	98.00	98.00	.00
817C	165.30	.15			.16
871	2.75	.00	69.00	86.20	.29
871	2.75	1.00	98.00	98.00	.00
871	5.50	.50			.14
872A	.28	.00	69.00	86.20	.29
872A	2.52	1.00	98.00	98.00	.00
872A	2.80	.90			.03
872B	14.30	.00	69.00	86.20	.29
872B	14.30	1.00	98.00	98.00	.00
872B	28.60	.50			.14
873A	2.61	.00	69.00	86.20	.29
873A	23.49	1.00	98.00	98.00	.00
873A	26.10	.90			.03
873B	22.00	.00	69.00	86.20	.29
873B	22.00	1.00	98.00	98.00	.00
873B	44.00	.50			.14
873C	26.11	.00	69.00	86.20	.29
873C	11.19	1.00	98.00	98.00	.00
873C	37.30	.30			.20
874A	.34	.00	69.00	86.20	.29
874A	3.06	1.00	98.00	98.00	.00
874A	3.40	.90			.03
874B	22.00	.00	69.00	86.20	.29
874B	22.00	1.00	98.00	98.00	.00
874B	44.00	.50			.14
874C	83.30	.00	69.00	86.20	.29
874C	35.70	1.00	98.00	98.00	.00
874C	119.00	.30			.20
874D	6.03	.00	77.00	92.20	.19
874D	1.07	1.00	98.00	98.00	.00
874D	7.10	.15			.16
875A	22.39	.00	69.00	86.20	.29
875A	201.51	1.00	98.00	98.00	.00
875A	223.90	.90			.03
875B	40.95	.00	69.00	86.20	.29
875B	40.95	1.00	98.00	98.00	.00
875B	81.90	.50			.14

WATERSHED 8, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 711

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
875C	170.80	.00	69.00	86.20	.29
875C	73.20	1.00	98.00	98.00	.00
875C	244.00	.30			.20
875D	31.37	.00	77.00	92.20	.19
875D	5.54	1.00	98.00	98.00	.00
875D	36.90	.15			.16
817D	4.20	.00	69.00	86.20	.29
817D	1.80	1.00	98.00	98.00	.00
817D	6.00	.30			.20
817E	11.00	.00	69.00	86.20	.29
817E	11.00	1.00	98.00	98.00	.00
817E	22.00	.50			.14
817F	10.10	.00	69.00	86.20	.29
817F	90.90	1.00	98.00	98.00	.00
817F	101.00	.90			.03
817G	76.93	.00	77.00	92.20	.19
817G	13.58	1.00	98.00	98.00	.00
817G	90.50	.15			.16
711A	8.78	.00	56.00	75.80	.42
711A	79.02	1.00	98.00	98.00	.00
711A	87.80	.90			.04
711B	2.20	.00	69.00	86.20	.29
711B	19.80	1.00	98.00	98.00	.00
711B	22.00	.90			.03
711H	55.09	.00	69.00	86.20	.29
711H	495.81	1.00	98.00	98.00	.00
711H	550.90	.90			.03
711J	59.78	.00	69.00	86.20	.29
711J	25.62	1.00	98.00	98.00	.00
711J	85.40	.30			.20
711I	75.74	.00	77.00	92.20	.19
711I	13.37	1.00	98.00	98.00	.00
711I	89.10	.15			.16

WATERSHED 8, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	7880.50
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.191
LOW LOSS FRACTION (Y BAR)	=	.225

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1E, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 120

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
101	5.00	.30	56.00
102A	18.40	.30	56.00
102B	14.80	.90	56.00
102C	3.50	.15	65.00
103A	55.00	.90	56.00
103B	102.90	.90	69.00
120A	358.00	.90	56.00
120B	183.80	.90	69.00

WATERSHED 1E, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 120

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
101	3.50	.00	56.00	75.80	.42
101	1.50	1.00	98.00	98.00	.00
101	5.00	.30			.29
102A	12.88	.00	56.00	75.80	.42
102A	5.52	1.00	98.00	98.00	.00
102A	18.40	.30			.29
102B	1.48	.00	56.00	75.80	.42
102B	13.32	1.00	98.00	98.00	.00
102B	14.80	.90			.04
102C	2.97	.00	65.00	83.00	.31
102C	.53	1.00	98.00	98.00	.00
102C	3.50	.15			.27
103A	5.50	.00	56.00	75.80	.42
103A	49.50	1.00	98.00	98.00	.00
103A	55.00	.90			.04
103B	10.29	.00	69.00	86.20	.29
103B	92.61	1.00	98.00	98.00	.00
103B	102.90	.90			.03
120A	35.80	.00	56.00	75.80	.42
120A	322.20	1.00	98.00	98.00	.00
120A	358.00	.90			.04
120B	18.38	.00	69.00	86.20	.29
120B	165.42	1.00	98.00	98.00	.00
120B	183.80	.90			.03

WATERSHED 1E, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	741.40
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.046
LOW LOSS FRACTION (Y BAR)	=	.098

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.

WATERSHED 1F, DESIGN NODE 1.20

LOSS RATE RAW INPUT DATA AT NODE 120

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	R.C.NO FOR AMC-II
101	5.20	.30	69.00
102	56.90	.30	69.00
103A	60.00	.30	69.00
103B	3.00	.15	77.00
104A	23.30	.90	56.00
104B	15.60	.15	77.00
104C	30.00	.30	56.00
104D	202.00	.30	69.00
104E	13.70	.90	69.00
105A	4.20	.90	56.00
105B	24.80	.90	69.00
105C	108.30	.30	69.00
105D	2.50	.15	77.00
106A	78.00	.90	56.00
106B	55.00	.90	69.00
106C	9.20	.30	69.00
107A	34.00	.90	69.00
107B	91.80	.90	56.00
120	81.70	.90	56.00

WATERSHED 1F, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 120

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
101	3.64	.00	69.00	86.20	.29
101	1.56	1.00	98.00	98.00	.00
101	5.20	.30			.20
102	39.83	.00	69.00	86.20	.29
102	17.07	1.00	98.00	98.00	.00
102	56.90	.30			.20
103A	42.00	.00	69.00	86.20	.29
103A	18.00	1.00	98.00	98.00	.00
103A	60.00	.30			.20
103B	2.55	.00	77.00	92.20	.19
103B	.45	1.00	98.00	98.00	.00
103B	3.00	.15			.16
104A	2.33	.00	56.00	75.80	.42
104A	20.97	1.00	98.00	98.00	.00
104A	23.30	.90			.04
104B	13.26	.00	77.00	92.20	.19
104B	2.34	1.00	98.00	98.00	.00
104B	15.60	.15			.16
104C	21.00	.00	56.00	75.80	.42
104C	9.00	1.00	98.00	98.00	.00
104C	30.00	.30			.29
104D	141.40	.00	69.00	86.20	.29
104D	60.60	1.00	98.00	98.00	.00
104D	202.00	.30			.20
104E	1.37	.00	69.00	86.20	.29
104E	12.33	1.00	98.00	98.00	.00
104E	13.70	.90			.03
105A	.42	.00	56.00	75.80	.42
105A	3.78	1.00	98.00	98.00	.00
105A	4.20	.90			.04
105B	2.48	.00	69.00	86.20	.29
105B	22.32	1.00	98.00	98.00	.00
105B	24.80	.90			.03
105C	75.81	.00	69.00	86.20	.29
105C	32.49	1.00	98.00	98.00	.00
105C	108.30	.30			.20
105D	2.13	.00	77.00	92.20	.19
105D	.38	1.00	98.00	98.00	.00
105D	2.50	.15			.16
106A	7.80	.00	56.00	75.80	.42
106A	70.20	1.00	98.00	98.00	.00
106A	78.00	.90			.04

WATERSHED 1F, DESIGN NODE 1.20

LOSS RATE PROCESSED INPUT DATA AT NODE 120

SUBAREA IDENTIFICATION	SUBAREA COMPONENT (ACRES)	IMPERVIOUS FRACT	RUNOFF CURVE NO. AMC-II	RUNOFF CURVE NO. AMC-III	LOSS RATE FM (IN/HR)
106B	5.50	.00	69.00	86.20	.29
106B	49.50	1.00	98.00	98.00	.00
106B	55.00	.90			.03
106C	6.44	.00	69.00	86.20	.29
106C	2.76	1.00	98.00	98.00	.00
106C	9.20	.30			.20
107A	3.40	.00	69.00	86.20	.29
107A	30.60	1.00	98.00	98.00	.00
107A	34.00	.90			.03
107B	9.18	.00	56.00	75.80	.42
107B	82.62	1.00	98.00	98.00	.00
107B	91.80	.90			.04
120	8.17	.00	56.00	75.80	.42
120	73.53	1.00	98.00	98.00	.00
120	81.70	.90			.04

WATERSHED 1F, DESIGN NODE 1.20

RETURN FREQUENCY (YEARS)	=	100.00
ANTECEDENT MOISTURE CONDITION	=	3.00
DRAINAGE AREA (ACRES)	=	899.20
24-HOUR RAIN (INCHES)	=	4.760
LOSS RATE FM (INCHES/HOUR)	=	.129
LOW LOSS FRACTION (Y BAR)	=	.172

THESE RESULTS ARE BASED ON THE COMPUTER MODEL " LOSS RATE CALCULATOR (1.2)" DEVELOPED BY RIVERTECH. IT CALCULATES LOSS RATE PARAMETERS IN SAN BERNARDINO COUNTY.