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FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 BODR 2022 - NODE 133C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 100-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV0033CC.DAT
TIME/DATE OF STUDY: 10:51 05/13/2023

\*\* INPUT SUMMARY \*\*

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FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.380
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.51; 30-MINUTE = 0.95; 1-HOUR = 1.32
3-HOUR = 2.49; 6-HOUR = 3.72; 24-HOUR = 6.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

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FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.567
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

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FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

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FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.613
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

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*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
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*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
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FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.285 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.239
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.240 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.311
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408

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3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.451
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
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>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
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*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
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*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
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*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

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SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

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FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
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>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
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FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

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FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.401 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.598  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
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>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.355 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.491  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
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>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
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*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.371 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.579
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.252 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.323
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                  0.00          0.00          0.000
          2                  1.00          0.01          0.310
          3                  2.00          0.83          1.240
          4                  3.00          5.60          2.600
          5                  4.00          16.88         4.130

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6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
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>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<  
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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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
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FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
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WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.795 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.515  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)          (CFS)
      -              0.00           0.00
      1              413.00          413.00
      2              1897.00         1613.00
      3              4682.00         3013.00
      4              6819.00         4013.00
      5              8100.00         4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
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*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1             0.00       0.00       0.000
      2             1.50       0.01       0.002
      3             2.00       0.02       1.900
      4             4.00       0.03       16.100
      5             4.30       0.05       18.200
      6             5.00       314.00     23.200
      7             6.00       1306.00    30.300
      8             7.00       2847.00    39.100
      9             8.00       4942.00    47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1             0.00       0.00       0.000
      2             0.99       2.90       0.900
      3             1.99       11.38      2.900
      4             3.99       19.63     10.300
      5             5.99       25.19     20.700
      6             7.99       29.71     31.700
      7             9.99       33.62     43.500
      8            10.99      35.49     49.700
      9            11.99     313.49    56.400
     10            12.99     894.27    63.100
     11            13.99    1748.55   69.900
     12            15.99   4306.91   84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.610 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.363  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

=====

```

+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0033CC.DAT ]
Page: 1 of 1
+-----+
|UPSTREAM  DOWNSTREAM|                                     | UPSTREAM  DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS)  PEAK (CFS) |
PEAK (HR)   | MODELED (AF) | FOOTNOTES |
+-----+
| 10100.00   119.00| Subarea (UH) Added to Stream #1|      0.0    19230.7|
18.000 |
| 119.00     126.00| Convex Routing:      Stream #1| 19230.7   19129.3|
18.083 |
| 40400.00   126.00| Subarea (UH) Added to Stream #2|      0.0     362.8|
16.333 |
| 126.00     126.00| Stream #2 Added to:  Stream #1| 19129.3   19235.1|
18.083 |
| 126.00     126.00| Zero Out:           Stream #2| 362.8     0.0|
|
+-----+
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0     55.0|
16.333 |
| 126.00     126.00| Stream #2 Added to:  Stream #1| 19235.1   19249.8|
18.083 |
| 126.00     126.00| Zero Out:           Stream #2| 55.0      0.0|
|
| 126.00    12720.50| Convex Routing:      Stream #1| 19249.8   19229.3|
18.167 |
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0     440.6|
16.333 |
+-----+
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0     288.6|
16.333 |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0     51.0|
16.417 |
| 331.00     331.00| Stream #4 Added to:  Stream #2| 440.6     487.6|
16.333 |
| 331.00     331.00| Zero Out:           Stream #4| 51.0      0.0|
|
| 331.00     331.00| Stream #3 Added to:  Stream #2| 487.6     776.3|
16.333 |
+-----+
| 331.00     331.00| Zero Out:           Stream #3| 288.6     0.0|
|
| 331.00     331.00| Flow-Through Basin: Stream #2| 776.3     547.9|
16.500 | 76.17|
| 331.00    12720.50| Stream #2 Added to:  Stream #1| 19229.3   19556.4|
18.167 |
| 12720.50  12720.50| Zero Out:           Stream #2| 547.9     0.0|
|

```



12720.50	127.00	Convex Routing:	Stream #1	19556.4	19506.2
18.250					
+-----+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	261.0
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	19506.2	19588.4
18.250					
127.00	127.00	Zero Out:	Stream #2	261.0	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	451.4
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	19588.4	19739.1
18.250					
+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	451.4	0.0
127.00	129.00	Convex Routing:	Stream #1	19739.1	19713.1
17.417					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	251.3
16.417					
129.00	129.00	Stream #2 Added to:	Stream #1	19713.1	19828.5
17.417					
129.00	129.00	Zero Out:	Stream #2	251.3	0.0
+-----+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	133.2
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	133.2	20.6
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	20.6	16.5
17.250	4.08				
221.00	222.00	Flow-Through Basin:	Stream #5	112.6	38.0
17.500	17.02				
223.00	222.00	Stream #5 Added to:	Stream #2	16.5	54.5
17.417					
+-----+-----+					
222.00	222.00	Zero Out:	Stream #5	38.0	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	19828.5	19882.9
17.417					
129.00	129.00	Zero Out:	Stream #2	54.5	0.0
129.00	133.00	Convex Routing:	Stream #1	19882.9	19872.9
17.500					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	1571.5
16.833					
+-----+-----+					
+-----+-----+					
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL					
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM					
+-----+-----+					

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV0033CC.DAT ]

Page: 2 of 1

UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00		Flowby Basin Model: Stream #2	1571.5	1349.8
16.833					
132.00	132.00		Flow-Through Basin: Stream #3	221.7	206.5
17.083	21.51				
132.00	132.00		Split Hydrograph: Stream #3	206.5	103.2
17.083					
132.00	132.00		Flow-Through Basin: Stream #3	103.2	21.9
18.917	14.56				
132.00	132.00		Stream #3 Added to: Stream #2	1349.8	1365.1
16.833					
132.00	132.00		Zero Out: Stream #3	21.9	0.0
132.00	132.00		Flow-Through Basin: Stream #4	103.2	22.0
18.917	14.70				
132.00	132.00		Stream #4 Added to: Stream #2	1365.1	1379.9
16.833					
132.00	132.00		Zero Out: Stream #4	22.0	0.0
132.00	13305.00		Convex Routing: Stream #2	1379.9	1343.5
17.333					
13305.00	133.00		Convex Routing: Stream #2	1343.5	1331.5
17.500					
132.00	133.00		Subarea (UH) Added to Stream #3	0.0	677.7
16.667					
133.00	133.00		Stream #3 Added to: Stream #2	1331.5	1831.3
17.500					
133.00	133.00		Zero Out: Stream #3	677.7	0.0
133.00	133.00		Stream #2 Added to: Stream #1	19872.9	21704.1
17.500					
133.00	133.00		Zero Out: Stream #2	1831.3	0.0
133.00	133.00		View: Stream #1		21704.1
17.500	17898.63	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL

3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133T \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 100-YR EV OCT 2022 ROKAMOTO \*

FILE NAME: EV0033TC.DAT
TIME/DATE OF STUDY: 15:35 10/25/2022

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.795 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.515
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qenter (CFS), Qpass (CFS). Rows include values for 1 and 2.

Table with 3 columns: Node number, Value 1, Value 2. Rows 3, 4, 5.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1 through 9.

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.49	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900

11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION (FT) = 427.51; DOWNSTREAM ELEVATION (FT) = 315.00  
CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION (FT) = 315.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.556 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.363
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

Table with columns: TIME (2) TO, NODE #, MODELED (AF), HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Includes summary header: \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL |  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |

+-----+  
-----+

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 BODR 2022 - NODE 133U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 100-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV0033UC.DAT
TIME/DATE OF STUDY: 10:52 05/13/2023

\*\* INPUT SUMMARY \*\*

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FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.380
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.51; 30-MINUTE = 0.95; 1-HOUR = 1.32
3-HOUR = 2.49; 6-HOUR = 3.72; 24-HOUR = 6.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

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FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.567
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

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FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.613
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

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FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

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*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
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*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.285 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.239
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.240 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.311
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422

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3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.451
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

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SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

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FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.401 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.598  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.355 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.491  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.371 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.579
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.252 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.323
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

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6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
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FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11  
-----

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<  
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\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV0033UC.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	19722.4
18.000					
119.00	126.00		Convex Routing: Stream #1	19722.4	19615.1
18.083					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	388.3
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	19615.1	19718.7
18.083					
126.00	126.00		Zero Out: Stream #2	388.3	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	59.1
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	19718.7	19733.2
18.083					
126.00	126.00		Zero Out: Stream #2	59.1	0.0
126.00	12720.50		Convex Routing: Stream #1	19733.2	19710.1
18.167					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	465.7
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	306.1
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	54.3
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	465.7	515.7
16.333					
331.00	331.00		Zero Out: Stream #4	54.3	0.0
331.00	331.00		Stream #3 Added to: Stream #2	515.7	821.8
16.333					
331.00	331.00		Zero Out: Stream #3	306.1	0.0
331.00	331.00		Flow-Through Basin: Stream #2	821.8	572.4
16.500	77.10				
331.00	12720.50		Stream #2 Added to: Stream #1	19710.1	20035.2
18.167					
12720.50	12720.50		Zero Out: Stream #2	572.4	0.0

12720.50	127.00		Convex Routing: Stream #1	20035.2	19978.7
18.250					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	278.7
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	19978.7	20059.4
18.250					
127.00	127.00		Zero Out: Stream #2	278.7	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	480.6
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	20059.4	20207.3
18.250					
127.00	127.00		Zero Out: Stream #2	480.6	0.0
127.00	129.00		Convex Routing: Stream #1	20207.3	20179.4
18.333					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	268.7
16.417					
129.00	129.00		Stream #2 Added to: Stream #1	20179.4	20247.1
18.333					
129.00	129.00		Zero Out: Stream #2	268.7	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	141.3
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	141.3	21.1
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	21.1	16.6
17.250	4.10				
221.00	222.00		Flow-Through Basin: Stream #5	120.1	40.3
17.417	17.27				
223.00	222.00		Stream #5 Added to: Stream #2	16.6	56.9
17.417					
222.00	222.00		Zero Out: Stream #5	40.3	0.0
222.00	129.00		Stream #2 Added to: Stream #1	20247.1	20298.4
18.333					
129.00	129.00		Zero Out: Stream #2	56.9	0.0
129.00	133.00		Convex Routing: Stream #1	20298.4	20280.4
17.500					
133.00	133.00		View: Stream #1		20280.4
17.500	16748.95	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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-----+
-----+
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0033UC.DAT ]
Page: 2 of |
-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |
PEAK (HR) | MODELED (AF) | FOOTNOTES |
-----+-----+-----+-----+
-----+-----+-----+

```

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2010 Advanced Engineering Software (aes)
Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 100-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV0034CC.DAT
TIME/DATE OF STUDY: 15:52 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.380
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.51; 30-MINUTE = 0.95; 1-HOUR = 1.32
3-HOUR = 2.49; 6-HOUR = 3.72; 24-HOUR = 6.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.567
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.613
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.285 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.239
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.240 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.311
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397

```

3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.451
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.401 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.598  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.355 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.491  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====



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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.371 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.579
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.252 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.323
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                  0.00          0.00          0.000
          2                  1.00          0.01          0.310
          3                  2.00          0.83          1.240
          4                  3.00          5.60          2.600
          5                  4.00          16.88          4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.795 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.515  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00         0.00         0.000
      2              1.50         0.01         0.002
      3              2.00         0.02         1.900
      4              4.00         0.03         16.100
      5              4.30         0.05         18.200
      6              5.00         314.00       23.200
      7              6.00         1306.00      30.300
      8              7.00         2847.00      39.100
      9              8.00         4942.00      47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00         0.00         0.000
      2              0.99         2.90         0.900
      3              1.99         11.38        2.900
      4              3.99         19.63        10.300
      5              5.99         25.19        20.700
      6              7.99         29.71        31.700
      7              9.99         33.62        43.500
      8              10.99        35.49        49.700
      9              11.99        313.49       56.400
      10             12.99        894.27       63.100
      11             13.99        1748.55      69.900
      12             15.99        4306.91      84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.610 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.363  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.352 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.412  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.252 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.408  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	18845.8
18.000					
119.00	126.00		Convex Routing: Stream #1	18845.8	18747.0
18.083					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	344.9
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	18747.0	18854.5
18.083					
126.00	126.00		Zero Out: Stream #2	344.9	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	52.2
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	18854.5	18869.5
18.083					
126.00	126.00		Zero Out: Stream #2	52.2	0.0
126.00	12720.50		Convex Routing: Stream #1	18869.5	18850.3
18.167					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	423.2
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	276.5
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	48.8
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	423.2	468.3
16.333					
331.00	331.00		Zero Out: Stream #4	48.8	0.0
331.00	331.00		Stream #3 Added to: Stream #2	468.3	744.8
16.333					
331.00	331.00		Zero Out: Stream #3	276.5	0.0
331.00	331.00		Flow-Through Basin: Stream #2	744.8	530.1
16.500	75.51				
331.00	12720.50		Stream #2 Added to: Stream #1	18850.3	19179.2
18.167					
12720.50	12720.50		Zero Out: Stream #2	530.1	0.0

12720.50	127.00		Convex Routing: Stream #1	19179.2	19134.2
18.250					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	248.5
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	19134.2	19217.7
18.250					
127.00	127.00		Zero Out: Stream #2	248.5	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	430.5
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	19217.7	19397.9
17.333					
127.00	127.00		Zero Out: Stream #2	430.5	0.0
127.00	129.00		Convex Routing: Stream #1	19397.9	19393.6
17.417					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	239.2
16.417					
129.00	129.00		Stream #2 Added to: Stream #1	19393.6	19507.7
17.417					
129.00	129.00		Zero Out: Stream #2	239.2	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	127.6
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	127.6	20.3
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	20.3	16.4
17.250	4.07				
221.00	222.00		Flow-Through Basin: Stream #5	107.3	36.6
17.500	16.82				
223.00	222.00		Stream #5 Added to: Stream #2	16.4	52.9
17.500					
222.00	222.00		Zero Out: Stream #5	36.6	0.0
222.00	129.00		Stream #2 Added to: Stream #1	19507.7	19560.6
17.417					
129.00	129.00		Zero Out: Stream #2	52.9	0.0
129.00	133.00		Convex Routing: Stream #1	19560.6	19549.7
17.417					
13010.00	132.00		Subarea (UH) Added to Stream #2	0.0	1508.6
16.833					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

```

+-----+
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0034CC.DAT ]
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+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1508.6    1298.9|
16.833 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 209.7     195.6|
17.083 | 21.33| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 195.6     97.8|
17.083 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 97.8      21.6|
18.917 | 13.95| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1298.9    1313.9|
16.833 | | |
+-----+
| 132.00    132.00| Zero Out:           Stream #3| 21.6      0.0|
| | |
| 132.00    132.00| Flow-Through Basin:  Stream #4| 97.8      21.6|
18.917 | 14.10| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1313.9    1328.2|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #4| 21.6      0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1328.2    1296.4|
17.333 | | |
+-----+
| 13305.00   133.00| Convex Routing:     Stream #2| 1296.4    1282.8|
17.583 | | |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0       653.3|
16.667 | | |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 1282.8    1776.8|
17.500 | | |
| 133.00    133.00| Zero Out:           Stream #3| 653.3     0.0|
| | |
| 133.00    133.00| Stream #2 Added to:  Stream #1| 19549.7   21325.8|
17.500 | | |
+-----+
| 133.00    133.00| Zero Out:           Stream #2| 1776.8     0.0|
| | |
| 133.00    134.00| Convex Routing:     Stream #1| 21325.8   21311.1|
17.583 | | |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0       759.3|
16.417 | | |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 21311.1   21679.4|
17.583 | | |

```

	134.00	134.00	Zero Out:	Stream #2	759.3	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	1187.6
17.250						
	134.00	134.00	Stream #2 Added to:	Stream #1	21679.4	22830.0
17.583						
	134.00	134.00	Zero Out:	Stream #2	1187.6	0.0
	134.00	134.00	View:	Stream #1		22830.0
17.583		18980.82	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS



\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 100-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV0034UC.DAT
TIME/DATE OF STUDY: 15:52 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.380
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.51; 30-MINUTE = 0.95; 1-HOUR = 1.32
3-HOUR = 2.49; 6-HOUR = 3.72; 24-HOUR = 6.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.567
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.613
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.285 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.239
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.240 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.311
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405

```

3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.451
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.401 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.598  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.355 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.491  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.371 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.579
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.252 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.323
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
DATA PAIR Qcenter Qpass
NUMBER (CFS) (CFS)
- 0.00 0.00
1 25.00 13.59
2 75.00 16.84
3 100.00 18.46
4 250.00 28.22
5 550.00 47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.795 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.515  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              1.50      0.01      0.002
      3              2.00      0.02      1.900
      4              4.00      0.03      16.100
      5              4.30      0.05      18.200
      6              5.00      314.00    23.200
      7              6.00      1306.00   30.300
      8              7.00      2847.00   39.100
      9              8.00      4942.00   47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              0.99      2.90      0.900
      3              1.99      11.38     2.900
      4              3.99      19.63     10.300
      5              5.99      25.19     20.700
      6              7.99      29.71     31.700
      7              9.99      33.62     43.500
      8              10.99     35.49     49.700
      9              11.99     313.49    56.400
      10             12.99     894.27    63.100
      11             13.99     1748.55   69.900
      12             15.99     4306.91   84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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,

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.610 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.363  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.352 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.412
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

Table with columns: TIME(2) TO, NODE #, UPSTREAM, DOWNSTREAM, MAX. STORAGE, HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Includes summary header: \* AES FLOODSCx PROGRAM RESULTS SUMMARY \* and various data rows for stream routing.



12720.50	127.00	Convex Routing:	Stream #1	19439.8	19391.2
18.250					
+-----+-----+					
12710.00	127.00	Subarea (UH) Added to	Stream #2	0.0	256.6
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	19391.2	19473.8
18.250					
127.00	127.00	Zero Out:	Stream #2	256.6	0.0
50150.00	127.00	Subarea (UH) Added to	Stream #2	0.0	444.1
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	19473.8	19626.0
17.333					
+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	444.1	0.0
127.00	129.00	Convex Routing:	Stream #1	19626.0	19617.4
17.417					
50300.00	129.00	Subarea (UH) Added to	Stream #2	0.0	247.0
16.417					
129.00	129.00	Stream #2 Added to:	Stream #1	19617.4	19732.4
17.417					
129.00	129.00	Zero Out:	Stream #2	247.0	0.0
+-----+-----+					
210.00	221.00	Subarea (UH) Added to	Stream #2	0.0	131.2
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	131.2	20.5
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	20.5	16.5
17.250	4.07				
221.00	222.00	Flow-Through Basin:	Stream #5	110.7	37.5
17.500	16.96				
223.00	222.00	Stream #5 Added to:	Stream #2	16.5	53.9
17.417					
+-----+-----+					
222.00	222.00	Zero Out:	Stream #5	37.5	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	19732.4	19786.3
17.417					
129.00	129.00	Zero Out:	Stream #2	53.9	0.0
129.00	133.00	Convex Routing:	Stream #1	19786.3	19775.9
17.500					
13010.00	132.00	Subarea (UH) Added to	Stream #2	0.0	1550.2
16.833					

[Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV0034UC.DAT ]

Page: 2 of

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1550.2	1332.6
132.00	132.00	217.6	202.9
132.00	132.00	202.9	101.4
132.00	132.00	101.4	21.8
132.00	132.00	1332.6	1347.8

132.00	132.00	21.8	0.0
132.00	132.00	101.4	21.9
132.00	132.00	1347.8	1362.5
132.00	132.00	21.9	0.0
132.00	13305.00	1362.5	1328.0

13305.00	133.00	1328.0	1314.7
132.00	133.00	0.0	669.4
133.00	133.00	1314.7	1813.1
133.00	133.00	669.4	0.0
133.00	133.00	19775.9	21588.9

133.00	133.00	1813.1	0.0
133.00	134.00	21588.9	21568.5
133.00	134.00	0.0	781.6
134.00	134.00	21568.5	21935.3

132.00	132.00	1550.2	1332.6
132.00	132.00	217.6	202.9
132.00	132.00	202.9	101.4
132.00	132.00	101.4	21.8
132.00	132.00	1332.6	1347.8
132.00	132.00	21.8	0.0
132.00	132.00	101.4	21.9
132.00	132.00	1347.8	1362.5
132.00	132.00	21.9	0.0
132.00	13305.00	1362.5	1328.0
13305.00	133.00	1328.0	1314.7
132.00	133.00	0.0	669.4
133.00	133.00	1314.7	1813.1
133.00	133.00	669.4	0.0
133.00	133.00	19775.9	21588.9
133.00	133.00	1813.1	0.0
133.00	134.00	21588.9	21568.5
133.00	134.00	0.0	781.6
134.00	134.00	21568.5	21935.3

134.00	134.00	Zero Out:	Stream #2	781.6	0.0
134.00	134.00	View:	Stream #1	21935.3	
17.583	18232.20	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 BODR 2022 - NODE 126 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 100-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV00126C.DAT
TIME/DATE OF STUDY: 10:53 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.380
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.51; 30-MINUTE = 0.95; 1-HOUR = 1.32
3-HOUR = 2.49; 6-HOUR = 3.72; 24-HOUR = 6.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.567
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.613
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

-----+  
| \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*  
|

| INPUT FILENAME: [EV00126C.DAT ]  
Page: 1 of |

-----+-----+-----+  
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|  
TIME (2) TO | MAX. STORAGE| |  
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |  
PEAK (HR) | MODELED (AF) | FOOTNOTES |

-----+-----+-----+  
| 10100.00 119.00| Subarea (UH) Added to Stream #1| 0.0 20073.0|  
18.000 | | |  
| 119.00 126.00| Convex Routing: Stream #1| 20073.0 19962.8|  
18.083 | | |  
| 40400.00 126.00| Subarea (UH) Added to Stream #2| 0.0 406.1|  
16.333 | | |  
| 126.00 126.00| Stream #2 Added to: Stream #1| 19962.8 20065.3|  
18.083 | | |  
| 126.00 126.00| Zero Out: Stream #2| 406.1 0.0|  
| | |

-----+-----+-----+  
| 600.00 126.00| Subarea (UH) Added to Stream #2| 0.0 61.8|  
16.333 | | |  
| 126.00 126.00| Stream #2 Added to: Stream #1| 20065.3 20079.6|  
18.083 | | |  
126.00 126.00	Zero Out: Stream #2	61.8 0.0
126.00 126.00	View: Stream #1	20079.6
18.083 | 16069.54| 3 |

-----+-----+-----+  
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL |  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |  
-----+-----+-----+

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 BODR 2022 - NODE 127 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 100-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV00127C.DAT
TIME/DATE OF STUDY: 10:50 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.380
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.51; 30-MINUTE = 0.95; 1-HOUR = 1.32
3-HOUR = 2.49; 6-HOUR = 3.72; 24-HOUR = 6.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.567
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.613
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.285 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.239
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.240 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.311
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424

```

3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.451
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.401 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.598  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.355 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.491  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 11  
-----

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<  
=====

* AES FLOODSCx PROGRAM RESULTS SUMMARY *						
INPUT FILENAME: [EV00127C.DAT ]						
Page: 1 of						
UPSTREAM	DOWNSTREAM		UPSTREAM	DOWNSTREAM		
TIME (2) TO	MAX. STORAGE		PEAK (CFS)	PEAK (CFS)		
NODE #	NODE #	HYDROLOGIC/HYDRAULIC PROCESS				
PEAK (HR)	MODELED (AF)	FOOTNOTES				
10100.00	119.00	Subarea (UH) Added to Stream #1	0.0	19788.7		
18.000						
119.00	126.00	Convex Routing: Stream #1	19788.7	19681.2		
18.083						
40400.00	126.00	Subarea (UH) Added to Stream #2	0.0	391.8		
16.333						
126.00	126.00	Stream #2 Added to: Stream #1	19681.2	19784.6		
18.083						
126.00	126.00	Zero Out: Stream #2	391.8	0.0		
600.00	126.00	Subarea (UH) Added to Stream #2	0.0	59.6		
16.333						
126.00	126.00	Stream #2 Added to: Stream #1	19784.6	19799.0		
18.083						
126.00	126.00	Zero Out: Stream #2	59.6	0.0		
126.00	12720.50	Convex Routing: Stream #1	19799.0	19775.4		
18.167						
320.00	331.00	Subarea (UH) Added to Stream #2	0.0	469.0		
16.333						
400.00	331.00	Subarea (UH) Added to Stream #3	0.0	308.4		
16.333						
390.00	331.00	Subarea (UH) Added to Stream #4	0.0	54.7		
16.417						
331.00	331.00	Stream #4 Added to: Stream #2	469.0	519.4		
16.333						
331.00	331.00	Zero Out: Stream #4	54.7	0.0		
331.00	331.00	Stream #3 Added to: Stream #2	519.4	827.8		
16.333						
331.00	331.00	Zero Out: Stream #3	308.4	0.0		
331.00	331.00	Flow-Through Basin: Stream #2	827.8	575.6		
16.500	77.22					
331.00	12720.50	Stream #2 Added to: Stream #1	19775.4	20100.3		
18.167						
12720.50	12720.50	Zero Out: Stream #2	575.6	0.0		



12720.50	127.00	Convex Routing:	Stream #1	20100.3	20042.4
18.250					
+-----+-----+-----+-----+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	281.0
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	20042.4	20123.0
18.250					
127.00	127.00	Zero Out:	Stream #2	281.0	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	484.5
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	20123.0	20270.6
18.250					
+-----+-----+-----+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	484.5	0.0
127.00	127.00	View:	Stream #1		20270.6
18.250	16611.84	3			
+-----+-----+-----+-----+-----+					
+-----+-----+-----+-----+-----+					
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT					
INTERVAL					
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF					
THE DESIGN STORM					
+-----+-----+-----+-----+-----+					
+-----+-----+-----+-----+-----+					

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 137 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 100-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV00137C.DAT
TIME/DATE OF STUDY: 15:51 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.380
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.51; 30-MINUTE = 0.95; 1-HOUR = 1.32
3-HOUR = 2.49; 6-HOUR = 3.72; 24-HOUR = 6.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.567
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.613
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.285 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.239
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.240 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.311
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394

```

3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.451
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.401 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.598  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.355 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.491  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.371 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.579
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.252 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.323
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.795 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.515  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         1.50    0.01    0.002
      3         2.00    0.02    1.900
      4         4.00    0.03    16.100
      5         4.30    0.05    18.200
      6         5.00   314.00   23.200
      7         6.00  1306.00  30.300
      8         7.00  2847.00  39.100
      9         8.00  4942.00  47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         0.99    2.90    0.900
      3         1.99   11.38    2.900
      4         3.99   19.63   10.300
      5         5.99   25.19   20.700
      6         7.99   29.71   31.700
      7         9.99   33.62   43.500
      8        10.99   35.49   49.700
      9        11.99  313.49  56.400
     10        12.99  894.27  63.100
     11        13.99 1748.55  69.900
     12        15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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,

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.610 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.363  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2



>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00 UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00 CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.352 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.412 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15 3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394 3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 1.252 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.408 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15 3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394 3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2 \*\*\*\*\*

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00 UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00 CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.403 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.421 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15 3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394 3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\* FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

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+-----+  
-----+

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

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UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE		UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
NODE #	NODE #	HYDROLOGIC/HYDRAULIC PROCESS		
PEAK (HR)	MODELED (AF)	FOOTNOTES		

10100.00	119.00	Subarea (UH) Added to Stream #1	0.0	18761.3
18.000				
119.00	126.00	Convex Routing: Stream #1	18761.3	18663.4
18.083				
40400.00	126.00	Subarea (UH) Added to Stream #2	0.0	341.6
16.333				
126.00	126.00	Stream #2 Added to: Stream #1	18663.4	18771.4
18.083				
126.00	126.00	Zero Out: Stream #2	341.6	0.0
600.00	126.00	Subarea (UH) Added to Stream #2	0.0	51.7
16.333				
126.00	126.00	Stream #2 Added to: Stream #1	18771.4	18786.5
18.083				
126.00	126.00	Zero Out: Stream #2	51.7	0.0
126.00	12720.50	Convex Routing: Stream #1	18786.5	18767.7
18.167				
320.00	331.00	Subarea (UH) Added to Stream #2	0.0	420.2
16.333				
400.00	331.00	Subarea (UH) Added to Stream #3	0.0	274.2
16.333				
390.00	331.00	Subarea (UH) Added to Stream #4	0.0	48.3
16.417				
331.00	331.00	Stream #4 Added to: Stream #2	420.2	464.9
16.333				
331.00	331.00	Zero Out: Stream #4	48.3	0.0
331.00	331.00	Stream #3 Added to: Stream #2	464.9	739.1
16.333				
331.00	331.00	Zero Out: Stream #3	274.2	0.0
331.00	331.00	Flow-Through Basin: Stream #2	739.1	526.7
16.500	75.38			
331.00	12720.50	Stream #2 Added to: Stream #1	18767.7	19097.1
18.167				
12720.50	12720.50	Zero Out: Stream #2	526.7	0.0

12720.50	127.00	Convex Routing:	Stream #1	19097.1	19052.5
18.250					
+-----+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	246.1
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	19052.5	19136.2
18.250					
127.00	127.00	Zero Out:	Stream #2	246.1	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	426.6
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	19136.2	19323.6
17.333					
+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	426.6	0.0
127.00	129.00	Convex Routing:	Stream #1	19323.6	19320.7
17.417					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	237.0
16.417					
129.00	129.00	Stream #2 Added to:	Stream #1	19320.7	19434.5
17.417					
129.00	129.00	Zero Out:	Stream #2	237.0	0.0
+-----+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	126.5
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	126.5	20.2
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	20.2	16.4
17.250	4.06				
221.00	222.00	Flow-Through Basin:	Stream #5	106.4	36.4
17.500	16.78				
223.00	222.00	Stream #5 Added to:	Stream #2	16.4	52.6
17.500					
+-----+-----+					
222.00	222.00	Zero Out:	Stream #5	36.4	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	19434.5	19487.1
17.417					
129.00	129.00	Zero Out:	Stream #2	52.6	0.0
129.00	133.00	Convex Routing:	Stream #1	19487.1	19478.3
17.417					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	1496.3
16.833					

[Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
|

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV00137C.DAT ]

Page: 2 of

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1496.3	1289.0
132.00	132.00	207.3	193.4
132.00	132.00	193.4	96.7
132.00	132.00	96.7	21.5
132.00	132.00	1289.0	1303.9
132.00	132.00	21.5	0.0
132.00	132.00	96.7	21.5
132.00	132.00	1303.9	1318.1
132.00	132.00	21.5	0.0
132.00	13305.00	1318.1	1287.1
13305.00	133.00	1287.1	1273.6
132.00	133.00	0.0	648.5
133.00	133.00	1273.6	1765.7
133.00	133.00	648.5	0.0
133.00	133.00	19478.3	21240.7
133.00	133.00	1765.7	0.0
133.00	134.00	21240.7	21227.5
133.00	134.00	0.0	752.9
134.00	134.00	21227.5	21596.3

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1496.3	1289.0
132.00	132.00	207.3	193.4
132.00	132.00	193.4	96.7
132.00	132.00	96.7	21.5
132.00	132.00	1289.0	1303.9
132.00	132.00	21.5	0.0
132.00	132.00	96.7	21.5
132.00	132.00	1303.9	1318.1
132.00	132.00	21.5	0.0
132.00	13305.00	1318.1	1287.1
13305.00	133.00	1287.1	1273.6
132.00	133.00	0.0	648.5
133.00	133.00	1273.6	1765.7
133.00	133.00	648.5	0.0
133.00	133.00	19478.3	21240.7
133.00	133.00	1765.7	0.0
133.00	134.00	21240.7	21227.5
133.00	134.00	0.0	752.9
134.00	134.00	21227.5	21596.3

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1496.3	1289.0
132.00	132.00	207.3	193.4
132.00	132.00	193.4	96.7
132.00	132.00	96.7	21.5
132.00	132.00	1289.0	1303.9
132.00	132.00	21.5	0.0
132.00	132.00	96.7	21.5
132.00	132.00	1303.9	1318.1
132.00	132.00	21.5	0.0
132.00	13305.00	1318.1	1287.1
13305.00	133.00	1287.1	1273.6
132.00	133.00	0.0	648.5
133.00	133.00	1273.6	1765.7
133.00	133.00	648.5	0.0
133.00	133.00	19478.3	21240.7
133.00	133.00	1765.7	0.0
133.00	134.00	21240.7	21227.5
133.00	134.00	0.0	752.9
134.00	134.00	21227.5	21596.3

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1496.3	1289.0
132.00	132.00	207.3	193.4
132.00	132.00	193.4	96.7
132.00	132.00	96.7	21.5
132.00	132.00	1289.0	1303.9
132.00	132.00	21.5	0.0
132.00	132.00	96.7	21.5
132.00	132.00	1303.9	1318.1
132.00	132.00	21.5	0.0
132.00	13305.00	1318.1	1287.1
13305.00	133.00	1287.1	1273.6
132.00	133.00	0.0	648.5
133.00	133.00	1273.6	1765.7
133.00	133.00	648.5	0.0
133.00	133.00	19478.3	21240.7
133.00	133.00	1765.7	0.0
133.00	134.00	21240.7	21227.5
133.00	134.00	0.0	752.9
134.00	134.00	21227.5	21596.3

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1496.3	1289.0
132.00	132.00	207.3	193.4
132.00	132.00	193.4	96.7
132.00	132.00	96.7	21.5
132.00	132.00	1289.0	1303.9
132.00	132.00	21.5	0.0
132.00	132.00	96.7	21.5
132.00	132.00	1303.9	1318.1
132.00	132.00	21.5	0.0
132.00	13305.00	1318.1	1287.1
13305.00	133.00	1287.1	1273.6
132.00	133.00	0.0	648.5
133.00	133.00	1273.6	1765.7
133.00	133.00	648.5	0.0
133.00	133.00	19478.3	21240.7
133.00	133.00	1765.7	0.0
133.00	134.00	21240.7	21227.5
133.00	134.00	0.0	752.9
134.00	134.00	21227.5	21596.3

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1496.3	1289.0
132.00	132.00	207.3	193.4
132.00	132.00	193.4	96.7
132.00	132.00	96.7	21.5
132.00	132.00	1289.0	1303.9
132.00	132.00	21.5	0.0
132.00	132.00	96.7	21.5
132.00	132.00	1303.9	1318.1
132.00	132.00	21.5	0.0
132.00	13305.00	1318.1	1287.1
13305.00	133.00	1287.1	1273.6
132.00	133.00	0.0	648.5
133.00	133.00	1273.6	1765.7
133.00	133.00	648.5	0.0
133.00	133.00	19478.3	21240.7
133.00	133.00	1765.7	0.0
133.00	134.00	21240.7	21227.5
133.00	134.00	0.0	752.9
134.00	134.00	21227.5	21596.3

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
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Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 138 \*  
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*  
\* 100-YR EV AUG 2023 ROKAMOTO \*  
\*\*\*\*\*

FILE NAME: EV00138C.DAT  
TIME/DATE OF STUDY: 15:49 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.964 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.380  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.51; 30-MINUTE = 0.95; 1-HOUR = 1.32  
3-HOUR = 2.49; 6-HOUR = 3.72; 24-HOUR = 6.54  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.284 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.567  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.289 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.613  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.285 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.239
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.240 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.311
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392

```

```

3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.451
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.401 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.598  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.355 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.491  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.371 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.579
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.252 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.323
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```



6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.795 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.515  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER    (FT)   (CFS)   (AF)
      1          0.00    0.00    0.000
      2          1.50    0.01    0.002
      3          2.00    0.02    1.900
      4          4.00    0.03    16.100
      5          4.30    0.05    18.200
      6          5.00   314.00   23.200
      7          6.00  1306.00  30.300
      8          7.00  2847.00  39.100
      9          8.00  4942.00  47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER    (FT)   (CFS)   (AF)
      1          0.00    0.00    0.000
      2          0.99    2.90    0.900
      3          1.99   11.38    2.900
      4          3.99   19.63   10.300
      5          5.99   25.19   20.700
      6          7.99   29.71   31.700
      7          9.99   33.62   43.500
      8         10.99   35.49   49.700
      9         11.99  313.49  56.400
     10         12.99  894.27  63.100
     11         13.99 1748.55  69.900
     12         15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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,

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.610 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.363  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00 UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00 CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.352 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.412 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15 3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392 3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 1.252 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.408 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15 3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392 3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2 \*\*\*\*\*

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00 UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00 CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.403 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.421 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15 3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392 3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.503 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.267; LOW LOSS FRACTION = 0.450
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

```

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV00138C.DAT ]

Page: 1 of 1

UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	18675.5
18.000					
119.00	126.00		Convex Routing: Stream #1	18675.5	18577.9
18.083					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	338.0
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	18577.9	18686.3
18.083					
126.00	126.00		Zero Out: Stream #2	338.0	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	51.1
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	18686.3	18701.5
18.083					
126.00	126.00		Zero Out: Stream #2	51.1	0.0
126.00	12720.50		Convex Routing: Stream #1	18701.5	18682.8
18.167					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	416.9
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	271.8
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	47.9
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	416.9	461.3
16.333					
331.00	331.00		Zero Out: Stream #4	47.9	0.0
331.00	331.00		Stream #3 Added to: Stream #2	461.3	733.0
16.333					
331.00	331.00		Zero Out: Stream #3	271.8	0.0
331.00	331.00		Flow-Through Basin: Stream #2	733.0	523.1
16.500	75.25				
331.00	12720.50		Stream #2 Added to: Stream #1	18682.8	19012.6
18.167					
12720.50	12720.50		Zero Out: Stream #2	523.1	0.0

12720.50	127.00		Convex Routing: Stream #1	19012.6	18969.3
18.250					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	243.6
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	18969.3	19053.4
18.250					
127.00	127.00		Zero Out: Stream #2	243.6	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	422.5
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	19053.4	19250.9
17.250					
127.00	127.00		Zero Out: Stream #2	422.5	0.0
127.00	129.00		Convex Routing: Stream #1	19250.9	19246.9
17.417					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	234.6
16.417					
129.00	129.00		Stream #2 Added to: Stream #1	19246.9	19360.4
17.417					
129.00	129.00		Zero Out: Stream #2	234.6	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	125.4
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	125.4	20.1
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	20.1	16.4
17.250	4.06				
221.00	222.00		Flow-Through Basin: Stream #5	105.3	36.1
17.500	16.73				
223.00	222.00		Stream #5 Added to: Stream #2	16.4	52.4
17.500					
222.00	222.00		Zero Out: Stream #5	36.1	0.0
222.00	129.00		Stream #2 Added to: Stream #1	19360.4	19412.7
17.417					
129.00	129.00		Zero Out: Stream #2	52.4	0.0
129.00	133.00		Convex Routing: Stream #1	19412.7	19406.0
17.417					
13010.00	132.00		Subarea (UH) Added to Stream #2	0.0	1483.7
16.833					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV00138C.DAT ]
Page: 2 of |
+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1483.7    1278.8|
16.833 |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 204.9     191.1|
17.083 | 21.26|
| 132.00    132.00| Split Hydrograph:   Stream #3| 191.1     95.6|
17.083 |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 95.6      21.4|
18.917 | 13.69|
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1278.8    1293.7|
16.833 |
+-----+
| 132.00    132.00| Zero Out:           Stream #3| 21.4      0.0|
|
| 132.00    132.00| Flow-Through Basin:  Stream #4| 95.6      21.4|
18.917 | 13.84|
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1293.7    1307.8|
16.833 |
| 132.00    132.00| Zero Out:           Stream #4| 21.4      0.0|
|
| 132.00    13305.00| Convex Routing:     Stream #2| 1307.8    1277.2|
17.333 |
+-----+
| 13305.00    133.00| Convex Routing:     Stream #2| 1277.2    1264.0|
17.583 |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0       643.6|
16.667 |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 1264.0    1754.6|
17.500 |
| 133.00    133.00| Zero Out:           Stream #3| 643.6     0.0|
|
| 133.00    133.00| Stream #2 Added to:  Stream #1| 19406.0   21156.7|
17.417 |
+-----+
| 133.00    133.00| Zero Out:           Stream #2| 1754.6     0.0|
|
| 133.00    134.00| Convex Routing:     Stream #1| 21156.7   21143.4|
17.583 |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0       746.0|
16.417 |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 21143.4   21512.8|
17.583 |

```

	134.00	134.00	Zero Out:	Stream #2	746.0	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	1173.4
17.250						
	134.00	134.00	Stream #2 Added to:	Stream #1	21512.8	22653.4
17.500						
	134.00	134.00	Zero Out:	Stream #2	1173.4	0.0
	134.00	137.00	Convex Routing:	Stream #1	22653.4	22637.7
17.667						
	134.00	137.00	Subarea (UH) Added to Stream #2		0.0	504.5
16.500						
+-----+						
	137.00	137.00	Stream #2 Added to:	Stream #1	22637.7	22899.6
17.667						
	137.00	137.00	Zero Out:	Stream #2	504.5	0.0
	137.00	138.00	Convex Routing:	Stream #1	22899.6	22882.5
17.833						
	137.00	138.00	Subarea (UH) Added to Stream #2		0.0	469.6
16.583						
	138.00	138.00	Stream #2 Added to:	Stream #1	22882.5	23150.6
17.750						
+-----+						
	138.00	138.00	Zero Out:	Stream #2	469.6	0.0
	138.00	138.00	View:	Stream #1		23150.6
17.750		19462.83	3			
+-----+						
+-----+						
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL						
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM						
+-----+						
+-----+						

END OF FLOODSCx ROUTING ANALYSIS



\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 139 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 100-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV00139C.DAT
TIME/DATE OF STUDY: 15:48 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.380
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.51; 30-MINUTE = 0.95; 1-HOUR = 1.32
3-HOUR = 2.49; 6-HOUR = 3.72; 24-HOUR = 6.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.567
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.613
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.285 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.239
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.240 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.311
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391

```

3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.451
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.401 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.598  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.355 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.491  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.371 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.579
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.252 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.323
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                  0.00          0.00          0.000
          2                  1.00          0.01          0.310
          3                  2.00          0.83          1.240
          4                  3.00          5.60          2.600
          5                  4.00          16.88         4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.795 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.515  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

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*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)          (CFS)
      -              0.00           0.00
      1              413.00          413.00
      2              1897.00         1613.00
      3              4682.00         3013.00
      4              6819.00         4013.00
      5              8100.00         4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00          0.00          0.000
      2              1.50          0.01          0.002
      3              2.00          0.02          1.900
      4              4.00          0.03          16.100
      5              4.30          0.05          18.200
      6              5.00          314.00        23.200
      7              6.00          1306.00       30.300
      8              7.00          2847.00       39.100
      9              8.00          4942.00       47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00          0.00          0.000
      2              0.99          2.90          0.900
      3              1.99          11.38         2.900
      4              3.99          19.63         10.300
      5              5.99          25.19         20.700
      6              7.99          29.71         31.700
      7              9.99          33.62         43.500
      8              10.99         35.49         49.700
      9              11.99         313.49        56.400
      10             12.99         894.27        63.100
      11             13.99         1748.55       69.900
      12             15.99         4306.91       84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.610 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.363  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15  
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.352 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.412
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.252 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.408
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.403 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.421
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<



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=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.503 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.267; LOW LOSS FRACTION = 0.450
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 119.70; DOWNSTREAM ELEVATION(FT) = 100.00
CHANNEL LENGTH(FT) = 3107.78 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 428.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.240 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.207; LOW LOSS FRACTION = 0.422
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.40; 30-MINUTE = 0.87; 1-HOUR = 1.15
3-HOUR = 1.94; 6-HOUR = 2.71; 24-HOUR = 4.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.347; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

```

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV00139C.DAT ]

Page: 1 of 1

UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	18633.4
18.000					
119.00	126.00		Convex Routing: Stream #1	18633.4	18535.9
18.083					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	336.8
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	18535.9	18644.5
18.083					
126.00	126.00		Zero Out: Stream #2	336.8	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	50.9
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	18644.5	18659.6
18.083					
126.00	126.00		Zero Out: Stream #2	50.9	0.0
126.00	12720.50		Convex Routing: Stream #1	18659.6	18641.0
18.167					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	415.7
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	270.9
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	47.7
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	415.7	459.9
16.333					
331.00	331.00		Zero Out: Stream #4	47.7	0.0
331.00	331.00		Stream #3 Added to: Stream #2	459.9	730.8
16.333					
331.00	331.00		Zero Out: Stream #3	270.9	0.0
331.00	331.00		Flow-Through Basin: Stream #2	730.8	522.0
16.500	75.20				
331.00	12720.50		Stream #2 Added to: Stream #1	18641.0	18971.0
18.167					
12720.50	12720.50		Zero Out: Stream #2	522.0	0.0

12720.50	127.00		Convex Routing: Stream #1	18971.0	18928.3
18.250					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	242.8
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	18928.3	19012.4
18.250					
127.00	127.00		Zero Out: Stream #2	242.8	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	421.0
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	19012.4	19213.5
17.250					
127.00	127.00		Zero Out: Stream #2	421.0	0.0
127.00	129.00		Convex Routing: Stream #1	19213.5	19208.7
17.417					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	233.8
16.417					
129.00	129.00		Stream #2 Added to: Stream #1	19208.7	19322.5
17.333					
129.00	129.00		Zero Out: Stream #2	233.8	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	125.0
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	125.0	20.1
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	20.1	16.3
17.250	4.06				
221.00	222.00		Flow-Through Basin: Stream #5	105.0	36.0
17.500	16.72				
223.00	222.00		Stream #5 Added to: Stream #2	16.3	52.3
17.500					
222.00	222.00		Zero Out: Stream #5	36.0	0.0
222.00	129.00		Stream #2 Added to: Stream #1	19322.5	19374.5
17.333					
129.00	129.00		Zero Out: Stream #2	52.3	0.0
129.00	133.00		Convex Routing: Stream #1	19374.5	19368.9
17.417					
13010.00	132.00		Subarea (UH) Added to Stream #2	0.0	1479.7
16.833					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV00139C.DAT ]
Page: 2 of |
+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1479.7    1275.5|
16.833 |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 204.1     190.4|
17.083 | 21.25|
| 132.00    132.00| Split Hydrograph:    Stream #3| 190.4     95.2|
17.083 |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 95.2      21.4|
18.917 | 13.65|
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1275.5    1290.4|
16.833 |
+-----+
| 132.00    132.00| Zero Out:             Stream #3| 21.4      0.0|
|
| 132.00    132.00| Flow-Through Basin:  Stream #4| 95.2      21.4|
18.917 | 13.80|
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1290.4    1304.4|
16.833 |
| 132.00    132.00| Zero Out:             Stream #4| 21.4      0.0|
|
| 132.00    13305.00| Convex Routing:      Stream #2| 1304.4    1274.1|
17.333 |
+-----+
| 13305.00    133.00| Convex Routing:      Stream #2| 1274.1    1260.9|
17.583 |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0       642.0|
16.667 |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 1260.9    1751.0|
17.500 |
| 133.00    133.00| Zero Out:             Stream #3| 642.0     0.0|
|
| 133.00    133.00| Stream #2 Added to:  Stream #1| 19368.9   21115.9|
17.417 |
+-----+
| 133.00    133.00| Zero Out:             Stream #2| 1751.0     0.0|
|
| 133.00    134.00| Convex Routing:      Stream #1| 21115.9   21102.5|
17.583 |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0       743.7|
16.417 |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 21102.5   21472.0|
17.583 |

```

	134.00	134.00	Zero Out:	Stream #2	743.7	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	1171.3
17.250						
	134.00	134.00	Stream #2 Added to:	Stream #1	21472.0	22612.5
17.500						
	134.00	134.00	Zero Out:	Stream #2	1171.3	0.0
	134.00	137.00	Convex Routing:	Stream #1	22612.5	22596.3
17.667						
	134.00	137.00	Subarea (UH) Added to Stream #2		0.0	502.9
16.500						
+-----+						
	137.00	137.00	Stream #2 Added to:	Stream #1	22596.3	22858.3
17.667						
	137.00	137.00	Zero Out:	Stream #2	502.9	0.0
	137.00	138.00	Convex Routing:	Stream #1	22858.3	22840.3
17.833						
	137.00	138.00	Subarea (UH) Added to Stream #2		0.0	467.7
16.583						
	138.00	138.00	Stream #2 Added to:	Stream #1	22840.3	23110.3
17.750						
+-----+						
	138.00	138.00	Zero Out:	Stream #2	467.7	0.0
	138.00	139.00	Convex Routing:	Stream #1	23110.3	23104.5
17.833						
	138.00	139.00	Subarea (UH) Added to Stream #2		0.0	225.0
16.333						
	139.00	139.00	Stream #2 Added to:	Stream #1	23104.5	23185.2
17.833						
	139.00	139.00	Zero Out:	Stream #2	225.0	0.0
+-----+						
	139.00	139.00	View:	Stream #1		23185.2
17.833		19528.20	3			
+-----+						
+-----+						
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL						
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM						
+-----+						

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV0233CC.DAT
TIME/DATE OF STUDY: 14:58 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49495.699 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 5.382 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.595; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.17; 30-MINUTE = 0.33; 1-HOUR = 0.45
3-HOUR = 0.84; 6-HOUR = 1.26; 24-HOUR = 2.22
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 12603.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 312.40

CHANNEL LENGTH (FT) = 3157.79 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 810.00 TO NODE 809.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 171.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.141 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.348; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 809.00 TO NODE 1260.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-11 showing increasing depth and storage values.

\*\*\*\*\*

FLOW PROCESS FROM NODE 12603.00 TO NODE 12603.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 12603.00 TO NODE 12603.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 12603.00 TO NODE 126.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 312.40; DOWNSTREAM ELEVATION (FT) = 286.00
CHANNEL LENGTH (FT) = 3046.70 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 920.00 TO NODE 905.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 553.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.292 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.509; LOW LOSS FRACTION = 0.862
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 905.00 TO NODE 126.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.80	2.460
3	2.00	1.30	5.020
4	3.00	1.60	7.690
5	4.00	17.00	10.460
6	5.00	23.40	13.330
7	6.00	28.50	16.310
8	7.00	230.70	19.400
9	8.00	625.80	22.600
10	9.00	1142.00	25.910
11	10.00	1723.00	29.340

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 218.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.429 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.580; LOW LOSS FRACTION = 0.966
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----

```

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00  
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.360 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.201; LOW LOSS FRACTION = 0.412  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<

WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.315 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.270; LOW LOSS FRACTION = 0.508  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<

WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.578 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.566; LOW LOSS FRACTION = 0.925  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 258.00; DOWNSTREAM ELEVATION(FT) = 240.00  
CHANNEL LENGTH(FT) = 3114.00 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.473 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.586; LOW LOSS FRACTION = 0.976  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.473 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.589; LOW LOSS FRACTION = 0.962  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<



```

=====
*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.473 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.564; LOW LOSS FRACTION = 0.940
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE

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*USER ENTERED "LAG" TIME = 0.309 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.256; LOW LOSS FRACTION = 0.498
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
DATA PAIR Qcenter Qpass
NUMBER (CFS) (CFS)
- 0.00 0.00
1 25.00 13.59
2 75.00 16.84
3 100.00 18.46
4 250.00 28.22
5 550.00 47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====
*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
INTERVAL DEPTH OUTFLOW STORAGE
NUMBER (FT) (CFS) (AF)
1 0.00 0.00 0.000
2 1.00 0.01 0.310
3 2.00 0.83 1.240
4 3.00 5.60 2.600
5 4.00 16.88 4.130
6 5.00 23.48 5.490
7 6.00 36.73 7.560
8 7.00 55.95 9.440
9 8.00 78.70 11.430
10 9.00 228.67 12.460

```

```

=====
*****
FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) =      0.000
SPECIFIED DEAD STORAGE (AF) FILLED =      0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET =      0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) =      0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL  DEPTH  OUTFLOW  STORAGE
NUMBER    (FT)   (CFS)    (AF)
-----
1         0.00    0.00     0.000
2         1.00    1.84     0.260
3         2.00    3.22     1.160
4         3.00    4.16     2.520
5         4.00    4.94     3.990
6         5.00    5.60     5.550
7         6.00    7.17     7.200
8         7.00   14.13    8.950
9         8.00   18.54   10.800
10        9.00   21.90   12.740
11       10.00   24.73   14.750
12       11.00   37.17   16.920
13       12.00   57.63   19.160
14       13.00   83.32   21.500
15       14.00  112.96   23.940
16       15.00  133.28   26.480
17       16.00  144.34   29.160
18       17.00  154.45   31.950
19       18.00  163.94   34.870
20       19.00  172.92   37.940
21       20.00  181.39   41.140
22       21.00  189.45   44.500
23       22.00  197.22   48.010
24       23.00  466.70   51.740
25       24.00  951.81   53.820
=====
*****
FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE = 7
-----
>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<
=====
*****
FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE = 6
-----

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>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936
=====
*****
FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

```

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:  
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN  
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<

```

```

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.948 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.449; LOW LOSS FRACTION = 0.752  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV0233CC.DAT ]

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UPSTREAM TIME (2) TO NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00	Subarea (UH) Added to Stream #1	0.0	562.0
20.417				
119.00	12603.00	Convex Routing: Stream #1	562.0	560.4
20.500				
810.00	809.00	Subarea (UH) Added to Stream #2	0.0	19.5
16.167				
809.00	1260.00	Flow-Through Basin: Stream #2	19.5	1.7
23.417	5.68			
12603.00	12603.00	Stream #2 Added to: Stream #1	560.4	562.1
20.500				
12603.00	12603.00	Zero Out: Stream #2	1.7	0.0
12603.00	126.00	Convex Routing: Stream #1	562.1	561.0
20.583				
920.00	905.00	Subarea (UH) Added to Stream #2	0.0	19.2
16.333				
905.00	126.00	Flow-Through Basin: Stream #2	19.2	1.6
24.250	7.64			
126.00	126.00	Stream #2 Added to: Stream #1	561.0	562.6
20.583				
126.00	126.00	Zero Out: Stream #2	1.6	0.0
600.00	126.00	Subarea (UH) Added to Stream #2	0.0	1.6
16.500				
126.00	126.00	Stream #2 Added to: Stream #1	562.6	562.9
20.583				
126.00	126.00	Zero Out: Stream #2	1.6	0.0
126.00	12720.50	Convex Routing: Stream #1	562.9	562.0
20.750				
320.00	331.00	Subarea (UH) Added to Stream #2	0.0	99.1
16.417				
400.00	331.00	Subarea (UH) Added to Stream #3	0.0	54.8
16.333				
390.00	331.00	Subarea (UH) Added to Stream #4	0.0	1.8
16.667				
331.00	331.00	Stream #4 Added to: Stream #2	99.1	100.7
16.417				

331.00	331.00	Zero Out: Stream #4	1.8	0.0
331.00	331.00	Stream #3 Added to: Stream #2	100.7	154.8
16.417				
331.00	331.00	Zero Out: Stream #3	54.8	0.0
331.00	331.00	Flow-Through Basin: Stream #2	154.8	84.9
17.500	54.38			
331.00	12720.50	Stream #2 Added to: Stream #1	562.0	604.4
20.000				
12720.50	12720.50	Zero Out: Stream #2	84.9	0.0
12720.50	127.00	Convex Routing: Stream #1	604.4	603.9
20.833				
12710.00	127.00	Subarea (UH) Added to Stream #2	0.0	3.6
16.500				
127.00	127.00	Stream #2 Added to: Stream #1	603.9	604.5
20.833				
127.00	127.00	Zero Out: Stream #2	3.6	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2	0.0	8.5
16.500				
127.00	127.00	Stream #2 Added to: Stream #1	604.5	606.2
20.083				
127.00	127.00	Zero Out: Stream #2	8.5	0.0
127.00	129.00	Convex Routing: Stream #1	606.2	605.8
21.000				
50300.00	129.00	Subarea (UH) Added to Stream #2	0.0	8.0
16.500				
129.00	129.00	Stream #2 Added to: Stream #1	605.8	607.2
21.000				
129.00	129.00	Zero Out: Stream #2	8.0	0.0
210.00	221.00	Subarea (UH) Added to Stream #2	0.0	26.2
16.333				
221.00	221.00	Flowby Basin Model: Stream #2	26.2	13.7
16.333				
221.00	223.00	Flow-Through Basin: Stream #2	13.7	6.2
17.917	2.68			
221.00	222.00	Flow-Through Basin: Stream #5	12.6	3.9
18.333	2.19			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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-----+-----
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0233CC.DAT ]
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-----+-----+-----+-----+
|UPSTREAM  DOWNSTREAM|                                     | UPSTREAM  DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS)  PEAK (CFS) |
PEAK (HR)   | MODELED (AF) | FOOTNOTES |
-----+-----+-----+-----+
| 223.00    222.00| Stream #5 Added to:  Stream #2|      6.2    10.1|
18.000 |                |
| 222.00    222.00| Zero Out:           Stream #5|      3.9    0.0|
|                |
| 222.00    129.00| Stream #2 Added to:  Stream #1|     607.2   615.0|
20.333 |                |
| 129.00    129.00| Zero Out:           Stream #2|      10.1    0.0|
|                |
| 129.00    133.00| Convex Routing:     Stream #1|     615.0   614.8|
21.083 |                |
-----+-----+-----+-----+
| 13010.00   132.00| Subarea (UH) Added to Stream #2|      0.0    147.0|
17.333 |                |
| 132.00    132.00| Flowby Basin Model: Stream #2|     147.0   147.0|
17.333 |                |
| 132.00    132.00| Zero Out:           Stream #3|      0.0    0.0|
|                |
| 132.00    132.00| Zero Out:           Stream #4|      0.0    0.0|
|                |
| 132.00    13305.00| Convex Routing:     Stream #2|     147.0   145.3|
17.917 |                |
-----+-----+-----+-----+
| 13305.00   133.00| Convex Routing:     Stream #2|     145.3   144.7|
18.250 |                |
| 132.00    133.00| Subarea (UH) Added to Stream #3|      0.0    78.0|
17.000 |                |
| 133.00    133.00| Stream #3 Added to:  Stream #2|     144.7   211.0|
17.167 |                |
| 133.00    133.00| Zero Out:           Stream #3|      78.0    0.0|
|                |
| 133.00    133.00| Stream #2 Added to:  Stream #1|     614.8   731.9|
18.417 |                |
-----+-----+-----+-----+
| 133.00    133.00| Zero Out:           Stream #2|     211.0    0.0|
|                |
| 133.00    133.00| View:               Stream #1|     731.9|
18.417 |    832.65| 3 |
-----+-----+-----+-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL

```

| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |

+-----+  
-----+

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133T \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV OCT 2022 ROKAMOTO \*

FILE NAME: EV0233TC.DAT
TIME/DATE OF STUDY: 14:47 10/27/2022

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.85; 24-HOUR = 1.44
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qenter (CFS), Qpass (CFS). Rows include data for pairs 1 and 2.

3 4682.00 3013.00
4 6819.00 4013.00
5 8100.00 4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

\*\*\*STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO\*\*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

\*\*\*STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO\*\*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

\*\*\*STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO\*\*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<

\*\*\*STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO\*\*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<

\*\*\*\*\*
\*\*\*\*ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
\*\*\*\*\*



```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
      PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

```

\*\*\*\*\*

```

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
=====
WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.947 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.449; LOW LOSS FRACTION = 0.752
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.85; 24-HOUR = 1.44
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

*****
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====
*****
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====
*****
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====
*****
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
=====
*****
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
=====

```

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

| INPUT FILENAME: [EV0233TC.DAT ]

Page: 1 of 1

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM NODE #	DOWNSTREAM NODE #	HYDROLOGIC/HYDRAULIC PROCESS	PEAK (CFS)	PEAK (CFS)
PEAK (HR)	MODELED (AF)	FOOTNOTES				

13010.00	132.00	132.00		Subarea (UH) Added to Stream #2	0.0	352.4
17.333						
132.00	132.00	132.00		Flowby Basin Model: Stream #2	352.4	352.4
17.333						
132.00	132.00	132.00		Zero Out: Stream #3	0.0	0.0
132.00	132.00	132.00		Zero Out: Stream #4	0.0	0.0
132.00	13305.00	13305.00		Convex Routing: Stream #2	352.4	339.8
17.667						

13305.00	133.00	133.00		Convex Routing: Stream #2	339.8	329.9
17.917						
132.00	133.00	133.00		Subarea (UH) Added to Stream #3	0.0	178.9
17.000						
133.00	133.00	133.00		Stream #3 Added to: Stream #2	329.9	402.8
17.917						
133.00	133.00	133.00		Zero Out: Stream #3	178.9	0.0
133.00	133.00	133.00		Stream #2 Added to: Stream #1	0.0	402.8
17.917						

133.00	133.00	133.00		Zero Out: Stream #2	402.8	0.0
134.00	134.00	134.00		View: Stream #1		402.8
17.917	170.65	3				

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EVO233UC.DAT
TIME/DATE OF STUDY: 14:59 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49495.699 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 5.382 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.595; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.17; 30-MINUTE = 0.32; 1-HOUR = 0.44
3-HOUR = 0.82; 6-HOUR = 1.23; 24-HOUR = 2.17
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 12603.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 312.40

CHANNEL LENGTH (FT) = 3157.79 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 810.00 TO NODE 809.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 171.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.141 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.348; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 809.00 TO NODE 12603.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-11 showing increasing depth and storage values.

\*\*\*\*\*

FLOW PROCESS FROM NODE 12603.00 TO NODE 12603.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 12603.00 TO NODE 12603.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 12603.00 TO NODE 126.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 312.40; DOWNSTREAM ELEVATION(FT) = 286.00
CHANNEL LENGTH(FT) = 3046.70 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 920.00 TO NODE 905.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 553.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.292 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.509; LOW LOSS FRACTION = 0.862
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 905.00 TO NODE 126.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.80	2.460
3	2.00	1.30	5.020
4	3.00	1.60	7.690
5	4.00	17.00	10.460
6	5.00	23.40	13.330
7	6.00	28.50	16.310
8	7.00	230.70	19.400
9	8.00	625.80	22.600
10	9.00	1142.00	25.910
11	10.00	1723.00	29.340

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 218.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.429 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.580; LOW LOSS FRACTION = 0.966
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----

```

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2

-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00  
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1

-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

=====

WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.360 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.201; LOW LOSS FRACTION = 0.412  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1

-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<

=====

WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.315 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.270; LOW LOSS FRACTION = 0.508  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1

----->>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<

=====

WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.578 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.566; LOW LOSS FRACTION = 0.925  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7

-----

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6

-----

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7

-----

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6

-----

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1

-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<

=====

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 258.00; DOWNSTREAM ELEVATION(FT) = 240.00  
CHANNEL LENGTH(FT) = 3114.00 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.473 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.586; LOW LOSS FRACTION = 0.976  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.473 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.589; LOW LOSS FRACTION = 0.962  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

```

=====
*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.473 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.564; LOW LOSS FRACTION = 0.940
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE

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*USER ENTERED "LAG" TIME = 0.309 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.256; LOW LOSS FRACTION = 0.498
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
DATA PAIR Qcenter Qpass
NUMBER (CFS) (CFS)
- 0.00 0.00
1 25.00 13.59
2 75.00 16.84
3 100.00 18.46
4 250.00 28.22
5 550.00 47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====
*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
INTERVAL DEPTH OUTFLOW STORAGE
NUMBER (FT) (CFS) (AF)
1 0.00 0.00 0.000
2 1.00 0.01 0.310
3 2.00 0.83 1.240
4 3.00 5.60 2.600
5 4.00 16.88 4.130
6 5.00 23.48 5.790
7 6.00 36.73 7.560
8 7.00 55.95 9.440
9 8.00 78.70 11.460
10 9.00 228.67 12.460

```

```

=====
*****
FLOW PROCESS FROM NODE    221.00 TO NODE    223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) =      0.000
SPECIFIED DEAD STORAGE (AF) FILLED =      0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET =      0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) =      0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

   INTERVAL    DEPTH    OUTFLOW    STORAGE
   NUMBER      (FT)    (CFS)    (AF)
   -----
1         0.00         0.00     0.000
2         1.00         1.84     0.260
3         2.00         3.22     1.160
4         3.00         4.16     2.520
5         4.00         4.94     3.990
6         5.00         5.60     5.550
7         6.00         7.17     7.200
8         7.00        14.13    8.950
9         8.00        18.54   10.800
10        9.00        21.90   12.740
11       10.00        24.73   14.750
12       11.00        37.17   16.920
13       12.00        57.63   19.160
14       13.00        83.32   21.500
15       14.00       112.96   23.940
16       15.00       133.28   26.480
17       16.00       144.34   29.150
18       17.00       154.45   31.950
19       18.00       163.94   34.870
20       19.00       172.92   37.940
21       20.00       181.39   41.140
22       21.00       189.45   44.500
23       22.00       197.22   48.010
24       23.00       466.70   51.740
25       24.00       951.81   53.820
=====

```

```

*****
FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

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*****
FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE = 6
-----

```

```

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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```

*****
FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01    CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 213.00; DOWNSTREAM ELEVATION(FT) = 212.00
CHANNEL LENGTH(FT) = 1389.52    MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

```

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*****
FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE = 11
-----

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>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

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\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV0233UC.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)	PROCESS
10100.00	119.00	0.0	569.9	Subarea (UH) Added to Stream #1
20.417				
119.00	12603.00	569.9	566.8	Convex Routing: Stream #1
20.500				
810.00	809.00	0.0	20.4	Subarea (UH) Added to Stream #2
16.250				
809.00	12603.00	20.4	1.7	Flow-Through Basin: Stream #2
23.250	5.58			
12603.00	12603.00	566.8	568.5	Stream #2 Added to: Stream #1
20.500				
12603.00	12603.00	1.7	0.0	Zero Out: Stream #2
12603.00	126.00	568.5	566.4	Convex Routing: Stream #1
20.583				
920.00	905.00	0.0	19.7	Subarea (UH) Added to Stream #2
16.333				
905.00	126.00	19.7	1.6	Flow-Through Basin: Stream #2
24.250	7.52			
126.00	126.00	566.4	568.0	Stream #2 Added to: Stream #1
20.583				
126.00	126.00	1.6	0.0	Zero Out: Stream #2
600.00	126.00	0.0	1.7	Subarea (UH) Added to Stream #2
16.500				
126.00	126.00	568.0	568.2	Stream #2 Added to: Stream #1
20.583				
126.00	126.00	1.7	0.0	Zero Out: Stream #2
126.00	12720.50	568.2	567.1	Convex Routing: Stream #1
20.750				
320.00	331.00	0.0	103.9	Subarea (UH) Added to Stream #2
16.417				
400.00	331.00	0.0	57.2	Subarea (UH) Added to Stream #3
16.333				
390.00	331.00	0.0	1.8	Subarea (UH) Added to Stream #4
16.667				
331.00	331.00	103.9	105.5	Stream #4 Added to: Stream #2
16.417				

331.00	331.00	Zero Out:	Stream #4	1.8	0.0
331.00	331.00	Stream #3 Added to:	Stream #2	105.5	162.5
16.417					
331.00	331.00	Zero Out:	Stream #3	57.2	0.0
331.00	331.00	Flow-Through Basin:	Stream #2	162.5	81.8
17.500	54.19				
331.00	12720.50	Stream #2 Added to:	Stream #1	567.1	608.7
20.750					
12720.50	12720.50	Zero Out:	Stream #2	81.8	0.0
12720.50	127.00	Convex Routing:	Stream #1	608.7	607.7
20.833					
12710.00	127.00	Subarea (UH) Added to:	Stream #2	0.0	3.7
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	607.7	608.3
20.833					
127.00	127.00	Zero Out:	Stream #2	3.7	0.0
50150.00	127.00	Subarea (UH) Added to:	Stream #2	0.0	8.7
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	608.3	609.8
20.833					
127.00	127.00	Zero Out:	Stream #2	8.7	0.0
127.00	129.00	Convex Routing:	Stream #1	609.8	609.4
21.083					
50300.00	129.00	Subarea (UH) Added to:	Stream #2	0.0	8.2
16.500					
129.00	129.00	Stream #2 Added to:	Stream #1	609.4	610.7
21.083					
129.00	129.00	Zero Out:	Stream #2	8.2	0.0
210.00	221.00	Subarea (UH) Added to:	Stream #2	0.0	27.7
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	27.7	13.8
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	13.8	6.0
17.917	2.65				
221.00	223.00	Flow-Through Basin:	Stream #5	13.9	3.9
18.333	2.16				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0233UC.DAT ]
Page: 2 of |
-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
-----+-----+
| 222.00 129.00| Stream #2 Added to: Stream #1| 610.7 614.6|
21.083 | | |
| 129.00 129.00| Zero Out: Stream #2| 6.0 0.0|
| | | |
| 129.00 133.00| Convex Routing: Stream #1| 614.6 614.3|
21.167 | | |
| 133.00 133.00| View: Stream #1| 614.3|
21.167 | 666.35| 3 |
-----+-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL |
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM |
-----+

```

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2010 Advanced Engineering Software (aes)
Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV0234CC.DAT
TIME/DATE OF STUDY: 16:34 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 5.382 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.595; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.17; 30-MINUTE = 0.33; 1-HOUR = 0.45
3-HOUR = 0.84; 6-HOUR = 1.25; 24-HOUR = 2.21
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.428 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.592; LOW LOSS FRACTION = 0.982
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.419 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.582; LOW LOSS FRACTION = 0.967
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```
*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====
```

```
*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
```

```
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.201; LOW LOSS FRACTION = 0.412
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933
```

```
*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
```

```
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.315 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.270; LOW LOSS FRACTION = 0.508
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
```

3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

```
*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
```

```
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.578 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.566; LOW LOSS FRACTION = 0.925
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933
```

```
*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
```

```
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00
```

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

```

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====

*****
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
=====

*****
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 258.00; DOWNSTREAM ELEVATION(FT) = 240.00
CHANNEL LENGTH(FT) = 3114.00 MANNING'S FACTOR = 0.030

```

```

CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
=====
WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.486 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.586; LOW LOSS FRACTION = 0.976
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
=====

*****
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
=====
WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.589 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.589; LOW LOSS FRACTION = 0.962
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.627 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.564; LOW LOSS FRACTION = 0.940
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.309 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.256; LOW LOSS FRACTION = 0.498
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                 0.00          0.00          0.000
          2                 1.00          0.01          0.310
          3                 2.00          0.83          1.240
          4                 3.00          5.60          2.600
          5                 4.00          16.88         4.130

```

6	5.00	23.48	5.790
7	6.00	34.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.262 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR          Qenter          Qpass
      NUMBER             (CFS)           (CFS)
      -                  0.00            0.00
      1                  413.00          413.00
      2                  1897.00         1613.00
      3                  4682.00         3013.00
      4                  6819.00         4013.00
      5                  8100.00         4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.948 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.449; LOW LOSS FRACTION = 0.752  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.453 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.490; LOW LOSS FRACTION = 0.819  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 2.991 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.567; LOW LOSS FRACTION = 0.908  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.40  
 3-HOUR = 0.68; 6-HOUR = 0.93; 24-HOUR = 1.57  
 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
 5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
 3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7  
 -----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6  
 -----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11  
 -----

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

```

+-----+
+-----+
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0234CC.DAT ]
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+-----+
+-----+
|UPSTREAM DOWNSTREAM|                               | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                               |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 10100.00   119.00| Subarea (UH) Added to Stream #1| 0.0   550.9|
20.417 | | |
| 119.00     126.00| Convex Routing:      Stream #1| 550.9  548.8|
20.583 | | |
| 40400.00   126.00| Subarea (UH) Added to Stream #2| 0.0   3.0|
16.500 | | |
| 126.00     126.00| Stream #2 Added to:  Stream #1| 548.8  549.4|
20.583 | | |
| 126.00     126.00| Zero Out:           Stream #2| 3.0   0.0|
| | |
+-----+
| 600.00     126.00| Subarea (UH) Added to Stream #2| 0.0   0.9|
16.500 | | |
| 126.00     126.00| Stream #2 Added to:  Stream #1| 549.4  549.5|
20.583 | | |
| 126.00     126.00| Zero Out:           Stream #2| 0.9   0.0|
| | |
| 126.00    12720.50| Convex Routing:      Stream #1| 549.5  548.7|
20.750 | | |
| 320.00     331.00| Subarea (UH) Added to Stream #2| 0.0   94.4|
16.417 | | |
+-----+
| 400.00     331.00| Subarea (UH) Added to Stream #3| 0.0   53.0|
16.333 | | |
| 390.00     331.00| Subarea (UH) Added to Stream #4| 0.0   1.7|
16.667 | | |
| 331.00     331.00| Flow-Through Basin:  Stream #2| 94.4  15.9|
20.500 | 44.06| |
| 331.00     331.00| Stream #4 Added to:  Stream #2| 15.9  16.2|
20.500 | | |
| 331.00     331.00| Zero Out:           Stream #4| 1.7   0.0|
| | |
+-----+
| 331.00     331.00| Stream #3 Added to:  Stream #2| 16.2  54.5|
16.333 | | |
| 331.00     331.00| Zero Out:           Stream #3| 53.0  0.0|
| | |
| 331.00    12720.50| Stream #2 Added to:  Stream #1| 548.7  573.2|
20.750 | | |
| 12720.50   12720.50| Zero Out:           Stream #2| 54.5  0.0|
| | |

```

12720.50	127.00	Convex Routing:	Stream #1	573.2	572.8
20.833					
+-----+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	3.4
16.583					
127.00	127.00	Stream #2 Added to:	Stream #1	572.8	573.5
20.833					
127.00	127.00	Zero Out:	Stream #2	3.4	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	7.8
16.667					
127.00	127.00	Stream #2 Added to:	Stream #1	573.5	575.0
20.833					
+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	7.8	0.0
127.00	129.00	Convex Routing:	Stream #1	575.0	574.6
21.000					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	7.2
16.667					
129.00	129.00	Stream #2 Added to:	Stream #1	574.6	576.0
21.000					
129.00	129.00	Zero Out:	Stream #2	7.2	0.0
+-----+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	25.3
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	25.3	13.6
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	13.6	6.1
18.083	2.67				
221.00	222.00	Flow-Through Basin:	Stream #5	11.6	3.9
18.333	2.16				
223.00	222.00	Stream #5 Added to:	Stream #2	6.1	10.0
18.083					
+-----+-----+					
222.00	222.00	Zero Out:	Stream #5	3.9	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	576.0	583.7
21.000					
129.00	129.00	Zero Out:	Stream #2	10.0	0.0
129.00	133.00	Convex Routing:	Stream #1	583.7	583.4
21.167					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	143.7
17.333					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 |  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
 |

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV0234CC.DAT ]

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UPSTREAM TIME (2) TO NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS FOOTNOTES	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00 17.333	132.00	Flowby Basin Model:	143.7	143.7
132.00	132.00	Zero Out:	0.0	0.0
132.00	132.00	Zero Out:	0.0	0.0
132.00 17.917	13305.00	Convex Routing:	143.7	142.2
13305.00 18.250	133.00	Convex Routing:	142.2	141.6
132.00 17.000	133.00	Subarea (UH) Added to Stream #3	0.0	76.0
133.00 17.167	133.00	Stream #3 Added to: Stream #2	141.6	207.1
133.00	133.00	Zero Out: Stream #3	76.0	0.0
133.00 18.667	133.00	Stream #2 Added to: Stream #1	583.4	676.0
133.00	133.00	Zero Out: Stream #2	207.1	0.0
133.00 18.917	134.00	Convex Routing: Stream #1	676.0	675.6
133.00 16.500	134.00	Subarea (UH) Added to Stream #2	0.0	63.9
134.00 18.750	134.00	Stream #2 Added to: Stream #1	675.6	693.1
134.00	134.00	Zero Out: Stream #2	63.9	0.0
13500.00 18.000	134.00	Subarea (UH) Added to Stream #2	0.0	52.6
134.00 18.750	134.00	Stream #2 Added to: Stream #1	693.1	745.6
134.00	134.00	Zero Out: Stream #2	52.6	0.0
134.00 18.750	134.00	View: Stream #1		745.6
	890.98	3		

[Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EVO234UC.DAT
TIME/DATE OF STUDY: 16:35 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 5.382 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.595; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.17; 30-MINUTE = 0.32; 1-HOUR = 0.44
3-HOUR = 0.82; 6-HOUR = 1.22; 24-HOUR = 2.16
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 905.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.428 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.592; LOW LOSS FRACTION = 0.982
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.53
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.419 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.582; LOW LOSS FRACTION = 0.967
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.53
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.201; LOW LOSS FRACTION = 0.412
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.53
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.315 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.270; LOW LOSS FRACTION = 0.508
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.53
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405

```

3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.578 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.566; LOW LOSS FRACTION = 0.925
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.53
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.2
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.486 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.586; LOW LOSS FRACTION = 0.976  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.53  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.589 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.589; LOW LOSS FRACTION = 0.962  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.53  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE    127.00 TO NODE    127.00 IS CODE =    6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) =    0.01    CHANNEL Z =    3.00
UPSTREAM ELEVATION (FT) =    240.00; DOWNSTREAM ELEVATION (FT) =    213.00
CHANNEL LENGTH (FT) =    4905.42    MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) =    0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE    129.00 IS CODE =    1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA =    634.200 ACRES; BASEFLOW =    0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME =    0.627 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) =    0.564; LOW LOSS FRACTION = 0.940
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE =    0.14; 30-MINUTE =    0.30; 1-HOUR =    0.39
3-HOUR =    0.66; 6-HOUR =    0.91; 24-HOUR =    1.53
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE =    0.304; 30-MINUTE =    0.358; 1-HOUR =    0.405
3-HOUR =    0.750; 6-HOUR =    0.890; 24-HOUR =    0.936

*****
FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =    7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =    6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =    1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA =    213.700 ACRES; BASEFLOW =    0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME =    0.309 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) =    0.256; LOW LOSS FRACTION = 0.498
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE =    0.14; 30-MINUTE =    0.30; 1-HOUR =    0.39
3-HOUR =    0.66; 6-HOUR =    0.91; 24-HOUR =    1.53
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE =    0.304; 30-MINUTE =    0.358; 1-HOUR =    0.405
3-HOUR =    0.750; 6-HOUR =    0.890; 24-HOUR =    0.936

*****
FLOW PROCESS FROM NODE    221.00 TO NODE    221.00 IS CODE =    2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE    221.00 TO NODE    223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) =    2.070
SPECIFIED DEAD STORAGE (AF) FILLED =    0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET =    0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) =    0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.031
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```



6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	82.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
\*\*\*\*ERROR-STREAM 2 CONTAINS NO INFORMATION (EMPTY).  
PROCESS IS NEGATED.  
\*\*\*\*\*

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00

```

=====
*****
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.53
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
DATA PAIR Qcenter Qpass
NUMBER (CFS) (CFS)
- 0.00 0.00
1 413.00 413.00
2 1897.00 1613.00
3 4682.00 3013.00
4 6819.00 4013.00
5 8100.00 4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

=====

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.948 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.449; LOW LOSS FRACTION = 0.752  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39  
3-HOUR = 0.66; 6-HOUR = 0.90; 24-HOUR = 1.53  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

-----

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

=====

-----

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

=====

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.453 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.490; LOW LOSS FRACTION = 0.819  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.39  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.53  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

=====

```

=====
*****
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

```

```

-----+-----
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
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-----+-----
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----
| 10100.00  119.00| Subarea (UH) Added to Stream #1|      0.0    539.8|
20.417 | |
| 119.00    126.00| Convex Routing:      Stream #1|    539.8    537.5|
20.583 | |
| 40400.00  905.00| Subarea (UH) Added to Stream #2|      0.0     3.0|
16.500 | |
| 126.00    126.00| Stream #2 Added to:  Stream #1|    537.5    538.0|
20.583 | |
| 126.00    126.00| Zero Out:           Stream #2|      3.0     0.0|
|
-----+-----
| 600.00    126.00| Subarea (UH) Added to Stream #2|      0.0     0.9|
16.500 | |
| 126.00    126.00| Stream #2 Added to:  Stream #1|    538.0    538.1|
20.583 | |
| 126.00    126.00| Zero Out:           Stream #2|      0.9     0.0|
|
| 126.00    12720.50| Convex Routing:      Stream #1|    538.1    537.3|
20.750 | |
| 320.00    331.00| Subarea (UH) Added to Stream #2|      0.0    95.2|
16.417 | |
-----+-----
| 400.00    331.00| Subarea (UH) Added to Stream #3|      0.0    52.7|
16.333 | |
| 390.00    331.00| Subarea (UH) Added to Stream #4|      0.0     1.7|
16.667 | |
| 331.00    331.00| Stream #4 Added to:  Stream #2|     95.2    96.7|
16.417 | |
| 331.00    331.00| Zero Out:           Stream #4|      1.7     0.0|
|
| 331.00    331.00| Stream #3 Added to:  Stream #2|     96.7   149.1|
16.417 | |
-----+-----
| 331.00    331.00| Zero Out:           Stream #3|     52.7     0.0|
|
| 331.00    331.00| Flow-Through Basin: Stream #2|    149.1    76.6|
17.667 | 53.88|
| 331.00    12720.50| Stream #2 Added to:  Stream #1|    537.3    579.4|
20.000 | |
| 12720.50  12720.50| Zero Out:           Stream #2|     76.6     0.0|
|

```

12720.50	127.00	Convex Routing:	Stream #1	579.4	578.9
20.083					
+-----+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	3.4
16.583					
127.00	127.00	Stream #2 Added to:	Stream #1	578.9	579.6
20.083					
127.00	127.00	Zero Out:	Stream #2	3.4	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	7.8
16.667					
127.00	127.00	Stream #2 Added to:	Stream #1	579.6	581.2
20.083					
+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	7.8	0.0
127.00	129.00	Convex Routing:	Stream #1	581.2	580.5
20.333					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	7.2
16.667					
129.00	129.00	Stream #2 Added to:	Stream #1	580.5	582.0
20.333					
129.00	129.00	Zero Out:	Stream #2	7.2	0.0
+-----+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	25.2
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	25.2	13.6
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	13.6	5.7
18.167	2.61				
221.00	222.00	Flow-Through Basin:	Stream #5	11.6	3.9
18.333	2.10				
223.00	222.00	Stream #5 Added to:	Stream #2	5.7	9.6
18.167					
+-----+-----+					
222.00	222.00	Zero Out:	Stream #5	3.9	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	582.0	590.0
20.333					
129.00	129.00	Zero Out:	Stream #2	9.6	0.0
129.00	129.00	Zero Out:	Stream #2	0.0	0.0
129.00	133.00	Convex Routing:	Stream #1	590.0	589.5
20.417					

[Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

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UPSTREAM TIME (2) TO   NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE   NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS   FOOTNOTES	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
--	--	---	------------------------	--------------------------

13010.00 17.333	132.00	Subarea (UH) Added to Stream #2	0.0	142.0
132.00 17.333	132.00	Flowby Basin Model: Stream #2	142.0	142.0
132.00 	132.00	Zero Out: Stream #3	0.0	0.0
132.00 	132.00	Zero Out: Stream #4	0.0	0.0
132.00 17.917	13305.00	Convex Routing: Stream #2	142.0	140.4

13305.00 18.250	133.00	Convex Routing: Stream #2	140.4	139.8
132.00 17.000	133.00	Subarea (UH) Added to Stream #3	0.0	75.3
133.00 17.167	133.00	Stream #3 Added to: Stream #2	139.8	203.9
133.00 	133.00	Zero Out: Stream #3	75.3	0.0
133.00 18.500	133.00	Stream #2 Added to: Stream #1	589.5	703.3

133.00 	133.00	Zero Out: Stream #2	203.9	0.0
133.00 18.750	134.00	Convex Routing: Stream #1	703.3	703.0
133.00 16.500	134.00	Subarea (UH) Added to Stream #2	0.0	63.7
134.00 18.500	134.00	Stream #2 Added to: Stream #1	703.0	723.9
134.00 	134.00	Zero Out: Stream #2	63.7	0.0

134.00 18.500	134.00	View: Stream #1		723.9
	824.56	3		

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 5-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV0533CC.DAT
TIME/DATE OF STUDY: 14:41 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 3.308 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.845
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.24; 30-MINUTE = 0.46; 1-HOUR = 0.65
3-HOUR = 1.20; 6-HOUR = 1.78; 24-HOUR = 3.15
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.493; LOW LOSS FRACTION = 0.845
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.485; LOW LOSS FRACTION = 0.933
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.330 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.167; LOW LOSS FRACTION = 0.352
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.447
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408

```

3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.448 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.472; LOW LOSS FRACTION = 0.863
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```



SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.370 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.489; LOW LOSS FRACTION = 0.949  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.447 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.491; LOW LOSS FRACTION = 0.915  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE    127.00 TO NODE    127.00 IS CODE =    6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) =    0.01    CHANNEL Z =    3.00
UPSTREAM ELEVATION (FT) =    240.00; DOWNSTREAM ELEVATION (FT) =    213.00
CHANNEL LENGTH (FT) =    4905.42    MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) =    0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE    129.00 IS CODE =    1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA =    634.200 ACRES; BASEFLOW =    0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME =    0.444 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) =    0.470; LOW LOSS FRACTION = 0.908
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE =    0.19; 30-MINUTE =    0.43; 1-HOUR =    0.57
3-HOUR =    0.96; 6-HOUR =    1.32; 24-HOUR =    2.21
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE =    0.308; 30-MINUTE =    0.363; 1-HOUR =    0.408
3-HOUR =    0.754; 6-HOUR =    0.891; 24-HOUR =    0.936

*****
FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =    7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =    6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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```

FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =    1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA =    213.700 ACRES; BASEFLOW =    0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME =    0.286 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) =    0.213; LOW LOSS FRACTION = 0.446
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE =    0.19; 30-MINUTE =    0.43; 1-HOUR =    0.57
3-HOUR =    0.96; 6-HOUR =    1.32; 24-HOUR =    2.21
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE =    0.308; 30-MINUTE =    0.363; 1-HOUR =    0.408
3-HOUR =    0.754; 6-HOUR =    0.891; 24-HOUR =    0.936

*****
FLOW PROCESS FROM NODE    221.00 TO NODE    221.00 IS CODE =    2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE    221.00 TO NODE    223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) =    2.070
SPECIFIED DEAD STORAGE (AF) FILLED =    0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET =    0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) =    0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                  0.00           0.00           0.000
          2                  1.00           0.01           0.310
          3                  2.00           0.83           1.240
          4                  3.00           5.60           2.600
          5                  4.00          16.88           4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.986 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.789  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR          Qenter          Qpass
      NUMBER             (CFS)           (CFS)
      -                  0.00           0.00
      1                  413.00          413.00
      2                  1897.00         1613.00
      3                  4682.00         3013.00
      4                  6819.00         4013.00
      5                  8100.00         4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01      CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05      MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.699 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.375; LOW LOSS FRACTION = 0.691  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV0533CC.DAT ]

Page: 1 of 1

UPSTREAM TIME (2) PEAK (HR)	DOWNSTREAM TIME (2) MAX. STORAGE NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00	Subarea (UH) Added to Stream #1	0.0	2366.0
19.333				
119.00	126.00	Convex Routing: Stream #1	2366.0	2324.4
19.250				
40400.00	126.00	Subarea (UH) Added to Stream #2	0.0	58.2
16.417				
126.00	126.00	Stream #2 Added to: Stream #1	2324.4	2332.5
19.250				
126.00	126.00	Zero Out: Stream #2	58.2	0.0
600.00	126.00	Subarea (UH) Added to Stream #2	0.0	7.5
16.417				
126.00	126.00	Stream #2 Added to: Stream #1	2332.5	2333.1
19.250				
126.00	126.00	Zero Out: Stream #2	7.5	0.0
126.00	12720.50	Convex Routing: Stream #1	2333.1	2330.3
19.583				
320.00	331.00	Subarea (UH) Added to Stream #2	0.0	164.9
16.417				
400.00	331.00	Subarea (UH) Added to Stream #3	0.0	100.0
16.333				
390.00	331.00	Subarea (UH) Added to Stream #4	0.0	7.4
16.500				
331.00	331.00	Stream #4 Added to: Stream #2	164.9	171.6
16.417				
331.00	331.00	Zero Out: Stream #4	7.4	0.0
331.00	331.00	Stream #3 Added to: Stream #2	171.6	266.8
16.333				
331.00	331.00	Zero Out: Stream #3	100.0	0.0
331.00	331.00	Flow-Through Basin: Stream #2	266.8	187.1
16.667	60.52			
331.00	12720.50	Stream #2 Added to: Stream #1	2330.3	2410.7
18.500				
12720.50	12720.50	Zero Out: Stream #2	187.1	0.0

12720.50	127.00	Convex Routing: Stream #1	2410.7	2406.4
18.583				
12710.00	127.00	Subarea (UH) Added to Stream #2	0.0	35.4
16.417				
127.00	127.00	Stream #2 Added to: Stream #1	2406.4	2409.7
18.583				
127.00	127.00	Zero Out: Stream #2	35.4	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2	0.0	53.2
16.500				
127.00	127.00	Stream #2 Added to: Stream #1	2409.7	2418.6
18.583				
127.00	127.00	Zero Out: Stream #2	53.2	0.0
127.00	129.00	Convex Routing: Stream #1	2418.6	2407.8
18.750				
50300.00	129.00	Subarea (UH) Added to Stream #2	0.0	34.9
16.500				
129.00	129.00	Stream #2 Added to: Stream #1	2407.8	2412.7
18.750				
129.00	129.00	Zero Out: Stream #2	34.9	0.0
210.00	221.00	Subarea (UH) Added to Stream #2	0.0	46.6
16.333				
221.00	221.00	Flowby Basin Model: Stream #2	46.6	15.0
16.333				
221.00	223.00	Flow-Through Basin: Stream #2	15.0	12.0
17.417	3.47			
221.00	222.00	Flow-Through Basin: Stream #5	31.6	5.2
18.417	4.66			
223.00	222.00	Stream #5 Added to: Stream #2	12.0	17.1
17.417				
222.00	222.00	Zero Out: Stream #5	5.2	0.0
222.00	129.00	Stream #2 Added to: Stream #1	2412.7	2427.6
18.750				
129.00	129.00	Zero Out: Stream #2	17.1	0.0
129.00	133.00	Convex Routing: Stream #1	2427.6	2423.5
18.833				
13010.00	132.00	Subarea (UH) Added to Stream #2	0.0	323.2
17.000				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
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|INPUT FILENAME: [EV0533CC.DAT ]
Page: 2 of |

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|UPSTREAM DOWNSTREAM|                               |UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                               |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS |PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----+-----+

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| 132.00 132.00| Flowby Basin Model: Stream #2| 323.2 323.2|
17.000 | | |
| 132.00 132.00| Zero Out: Stream #3| 0.0 0.0|
| | | |
| 132.00 132.00| Zero Out: Stream #4| 0.0 0.0|
| | | |
| 132.00 13305.00| Convex Routing: Stream #2| 323.2 314.4|
17.500 | | |
| 13305.00 133.00| Convex Routing: Stream #2| 314.4 312.4|
17.833 | | |
-----+-----+-----+

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| 132.00 133.00| Subarea (UH) Added to Stream #3| 0.0 163.9|
16.750 | | |
| 133.00 133.00| Stream #3 Added to: Stream #2| 312.4 422.6|
17.667 | | |
| 133.00 133.00| Zero Out: Stream #3| 163.9 0.0|
| | | |
| 133.00 133.00| Stream #2 Added to: Stream #1| 2423.5 2733.6|
18.417 | | |
| 133.00 133.00| Zero Out: Stream #2| 422.6 0.0|
| | | |
-----+-----+-----+

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| 133.00 133.00| View: Stream #1| 2733.6|
18.417 | 2416.53| 3 |
-----+-----+-----+

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|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL
|
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM
|
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END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2010 Advanced Engineering Software (aes)
Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133T \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 5-YR EV JUNE 2023 ROKAMOTO \*

FILE NAME: EV0533TC.DAT
TIME/DATE OF STUDY: 15:38 06/29/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.986 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.789
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qenter (CFS), Qpass (CFS). Rows include values for 1 and 2.

Table with 3 columns: Node, Value 1, Value 2. Rows 3, 4, 5.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-9.

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:



INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.49	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900

11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 427.51; DOWNSTREAM ELEVATION (FT) = 315.00  
CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 315.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.699 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.375; LOW LOSS FRACTION = 0.691
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.32; 24-HOUR = 2.21
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

Table with columns: TIME (2) TO PEAK (HR), NODE #, MODELED (AF), HYDROLOGIC/HYDRAULIC PROCESS, FOOTNOTES, UPSTREAM PEAK (CFS), DOWNSTREAM PEAK (CFS). Rows include entries like 'Subarea (UH) Added to Stream #2', 'Flowby Basin Model: Stream #2', 'Flow-Through Basin: Stream #3', etc.

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL |  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |

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END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 5-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV0533UC.DAT
TIME/DATE OF STUDY: 14:41 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 3.308 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.845
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.24; 30-MINUTE = 0.45; 1-HOUR = 0.64
3-HOUR = 1.18; 6-HOUR = 1.76; 24-HOUR = 3.10
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.493; LOW LOSS FRACTION = 0.948
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.18
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.485; LOW LOSS FRACTION = 0.933
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.18
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.330 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.167; LOW LOSS FRACTION = 0.352
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.18
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.447
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.18
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422

```

3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.448 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.472; LOW LOSS FRACTION = 0.863
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.18
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.370 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.489; LOW LOSS FRACTION = 0.949  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56  
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.18  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.447 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.491; LOW LOSS FRACTION = 0.915  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56  
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.18  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.444 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.470; LOW LOSS FRACTION = 0.908
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.18
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.286 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.213; LOW LOSS FRACTION = 0.446
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.18
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                    0.00              0.00
          1                    25.00             13.59
          2                    75.00             16.84
          3                   100.00             18.46
          4                   250.00             28.22
          5                   550.00             47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11  
-----

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<  
-----

=====

=====



\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV0533UC.DAT ]

Page: 1 of 1

UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
PEAK (HR)	MODELED (AF)	FOOTNOTES			
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	2433.4
19.333					
119.00	126.00		Convex Routing: Stream #1	2433.4	2382.0
19.417					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	44.4
16.417					
126.00	126.00		Stream #2 Added to: Stream #1	2382.0	2384.6
19.417					
126.00	126.00		Zero Out: Stream #2	44.4	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	7.7
16.417					
126.00	126.00		Stream #2 Added to: Stream #1	2384.6	2385.1
19.417					
126.00	126.00		Zero Out: Stream #2	7.7	0.0
126.00	12720.50		Convex Routing: Stream #1	2385.1	2384.5
19.583					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	167.8
16.417					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	102.0
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	7.5
16.500					
331.00	331.00		Stream #4 Added to: Stream #2	167.8	174.7
16.417					
331.00	331.00		Zero Out: Stream #4	7.5	0.0
331.00	331.00		Stream #3 Added to: Stream #2	174.7	272.2
16.333					
331.00	331.00		Zero Out: Stream #3	102.0	0.0
331.00	331.00		Flow-Through Basin: Stream #2	272.2	188.8
16.667	60.62				
331.00	12720.50		Stream #2 Added to: Stream #1	2384.5	2448.4
19.583					
12720.50	12720.50		Zero Out: Stream #2	188.8	0.0

12720.50	127.00		Convex Routing: Stream #1	2448.4	2447.4
19.583					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	36.3
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	2447.4	2449.6
19.583					
127.00	127.00		Zero Out: Stream #2	36.3	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	54.5
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	2449.6	2455.2
19.583					
127.00	127.00		Zero Out: Stream #2	54.5	0.0
127.00	129.00		Convex Routing: Stream #1	2455.2	2453.2
19.750					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	35.7
16.500					
129.00	129.00		Stream #2 Added to: Stream #1	2453.2	2456.7
19.750					
129.00	129.00		Zero Out: Stream #2	35.7	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	47.5
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	47.5	15.1
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	15.1	11.9
17.417	3.46				
221.00	222.00		Flow-Through Basin: Stream #5	32.5	5.2
18.417	4.62				
223.00	222.00		Stream #5 Added to: Stream #2	11.9	17.0
17.417					
222.00	222.00		Zero Out: Stream #5	5.2	0.0
222.00	129.00		Stream #2 Added to: Stream #1	2456.7	2469.0
19.750					
129.00	129.00		Zero Out: Stream #2	17.0	0.0
133.00	133.00		View: Stream #1		2469.0
19.750	2117.93	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS



\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 5-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV0534CC.DAT
TIME/DATE OF STUDY: 16:27 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 3.308 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.845
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.24; 30-MINUTE = 0.46; 1-HOUR = 0.65
3-HOUR = 1.20; 6-HOUR = 1.79; 24-HOUR = 3.16
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.493; LOW LOSS FRACTION = 0.948
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.485; LOW LOSS FRACTION = 0.933
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.330 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.167; LOW LOSS FRACTION = 0.352
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.447
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397

```

3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.448 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.472; LOW LOSS FRACTION = 0.863
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.370 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.489; LOW LOSS FRACTION = 0.949  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.447 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.491; LOW LOSS FRACTION = 0.915  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.444 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.470; LOW LOSS FRACTION = 0.908
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.286 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.213; LOW LOSS FRACTION = 0.446
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.986 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.789  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR           Qenter           Qpass
      NUMBER             (CFS)             (CFS)
      -                 0.00             0.00
      1                 413.00            413.00
      2                 1897.00           1613.00
      3                 4682.00           3013.00
      4                 6819.00           4013.00
      5                 8100.00           4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01      CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05      MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.700 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.375; LOW LOSS FRACTION = 0.691  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.390 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.409; LOW LOSS FRACTION = 0.762  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 2.179 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.473; LOW LOSS FRACTION = 0.843  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.57  
 3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22  
 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
 5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
 3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7  
 -----  
 >>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
 =====

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6  
 -----  
 >>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
 =====

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11  
 -----  
 >>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<<  
 =====

```

+-----+
+-----+
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
|INPUT FILENAME: [EV0534CC.DAT ]
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+-----+
+-----+
|UPSTREAM DOWNSTREAM|                               |UPSTREAM DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|                               |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS |PEAK (CFS) PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
+-----+
| 10100.00   119.00| Subarea (UH) Added to Stream #1|    0.0   2296.5|
19.333 |
| 119.00     126.00| Convex Routing:      Stream #1|  2296.5   2264.4|
19.250 |
| 40400.00   126.00| Subarea (UH) Added to Stream #2|    0.0    37.4|
16.417 |
| 126.00     126.00| Stream #2 Added to:  Stream #1|  2264.4   2267.1|
19.250 |
| 126.00     126.00| Zero Out:           Stream #2|    37.4    0.0|
|
+-----+
| 600.00     126.00| Subarea (UH) Added to Stream #2|    0.0    6.5|
16.417 |
| 126.00     126.00| Stream #2 Added to:  Stream #1|  2267.1   2267.7|
19.250 |
| 126.00     126.00| Zero Out:           Stream #2|    6.5    0.0|
|
| 126.00   12720.50| Convex Routing:      Stream #1|  2267.7   2262.1|
19.500 |
| 320.00     331.00| Subarea (UH) Added to Stream #2|    0.0   157.9|
16.417 |
+-----+
| 400.00     331.00| Subarea (UH) Added to Stream #3|    0.0   95.2|
16.333 |
| 390.00     331.00| Subarea (UH) Added to Stream #4|    0.0    6.7|
16.500 |
| 331.00     331.00| Stream #4 Added to:  Stream #2|  157.9   164.0|
16.417 |
| 331.00     331.00| Zero Out:           Stream #4|    6.7    0.0|
|
| 331.00     331.00| Stream #3 Added to:  Stream #2|  164.0   255.1|
16.333 |
+-----+
| 331.00     331.00| Zero Out:           Stream #3|   95.2    0.0|
|
| 331.00     331.00| Flow-Through Basin:  Stream #2|  255.1   181.7|
16.583 | 60.19|
| 331.00   12720.50| Stream #2 Added to:  Stream #1|  2262.1  2354.8|
18.500 |
| 12720.50  12720.50| Zero Out:           Stream #2|  181.7    0.0|
|

```

12720.50	127.00	Convex Routing:	Stream #1	2354.8	2351.1
18.583					
+-----+					
12710.00	127.00	Subarea (UH) Added to	Stream #2	0.0	30.7
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	2351.1	2354.3
18.583					
127.00	127.00	Zero Out:	Stream #2	30.7	0.0
50150.00	127.00	Subarea (UH) Added to	Stream #2	0.0	47.0
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	2354.3	2363.5
18.583					
+-----+					
127.00	127.00	Zero Out:	Stream #2	47.0	0.0
127.00	129.00	Convex Routing:	Stream #1	2363.5	2354.0
18.750					
50300.00	129.00	Subarea (UH) Added to	Stream #2	0.0	31.1
16.500					
129.00	129.00	Stream #2 Added to:	Stream #1	2354.0	2359.0
18.750					
129.00	129.00	Zero Out:	Stream #2	31.1	0.0
+-----+					
210.00	221.00	Subarea (UH) Added to	Stream #2	0.0	44.4
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	44.4	14.9
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	14.9	12.0
17.417	3.47				
221.00	222.00	Flow-Through Basin:	Stream #5	29.6	5.2
18.417	4.60				
223.00	222.00	Stream #5 Added to:	Stream #2	12.0	17.1
17.500					
+-----+					
222.00	222.00	Zero Out:	Stream #5	5.2	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	2359.0	2374.0
18.750					
129.00	129.00	Zero Out:	Stream #2	17.1	0.0
129.00	133.00	Convex Routing:	Stream #1	2374.0	2370.3
18.833					
13010.00	132.00	Subarea (UH) Added to	Stream #2	0.0	306.2
17.000					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 |  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
 |

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV0534CC.DAT ]

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UPSTREAM TIME (2) TO NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS FOOTNOTES	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00 17.000	132.00	Flowby Basin Model:	306.2	306.2
132.00	132.00	Zero Out:	0.0	0.0
132.00	132.00	Zero Out:	0.0	0.0
132.00 17.500	13305.00	Convex Routing:	306.2	298.7
13305.00 17.833	133.00	Convex Routing:	298.7	297.2
132.00 16.750	133.00	Subarea (UH) Added to Stream #3	0.0	155.4
133.00 17.667	133.00	Stream #3 Added to: Stream #2	297.2	406.5
133.00	133.00	Zero Out:	155.4	0.0
133.00 18.417	133.00	Stream #2 Added to: Stream #1	2370.3	2678.8
133.00	133.00	Zero Out:	406.5	0.0
133.00 18.583	134.00	Convex Routing:	2678.8	2676.0
133.00 16.417	134.00	Subarea (UH) Added to Stream #2	0.0	152.0
134.00 18.500	134.00	Stream #2 Added to: Stream #1	2676.0	2714.3
134.00	134.00	Zero Out:	152.0	0.0
13500.00 18.083	134.00	Subarea (UH) Added to Stream #2	0.0	148.0
134.00 18.583	134.00	Stream #2 Added to: Stream #1	2714.3	2858.6
134.00	134.00	Zero Out:	148.0	0.0
134.00 18.583	134.00	View:	2858.6	
	2564.62	3		

[Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 5-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV0534UC.DAT
TIME/DATE OF STUDY: 16:27 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 3.308 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.845
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.24; 30-MINUTE = 0.46; 1-HOUR = 0.65
3-HOUR = 1.21; 6-HOUR = 1.80; 24-HOUR = 3.17
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.493; LOW LOSS FRACTION = 0.948
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.485; LOW LOSS FRACTION = 0.933
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.330 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.167; LOW LOSS FRACTION = 0.352
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.447
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405

```

3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.448 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.472; LOW LOSS FRACTION = 0.863
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.370 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.489; LOW LOSS FRACTION = 0.949  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58  
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.447 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.491; LOW LOSS FRACTION = 0.915  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58  
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.444 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.470; LOW LOSS FRACTION = 0.908
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.286 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.213; LOW LOSS FRACTION = 0.446
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```



6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.986 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.789  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58  
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR           Qenter           Qpass
      NUMBER             (CFS)             (CFS)
      -                  0.00             0.00
      1                  413.00            413.00
      2                  1897.00           1613.00
      3                  4682.00           3013.00
      4                  6819.00           4013.00
      5                  8100.00           4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01      CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05      MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.700 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.375; LOW LOSS FRACTION = 0.691  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58  
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.390 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.409; LOW LOSS FRACTION = 0.762  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.43; 1-HOUR = 0.58  
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

\*\*\*\*\*

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

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UPSTREAM TIME (2)	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00	0.0	2365.3
19.333			
119.00	126.00	2365.3	2325.2
19.250			
40400.00	126.00	0.0	41.4
16.417			
126.00	126.00	2325.2	2327.9
19.250			
126.00	126.00	41.4	0.0
600.00	126.00	0.0	7.2
16.417			
126.00	126.00	2327.9	2328.5
19.250			
126.00	126.00	7.2	0.0
126.00	12720.50	2328.5	2325.2
19.583			
320.00	331.00	0.0	163.4
16.417			
400.00	331.00	0.0	98.6
16.333			
390.00	331.00	0.0	7.2
16.500			
331.00	331.00	163.4	169.9
16.417			
331.00	331.00	7.2	0.0
331.00	331.00	169.9	263.5
16.333			
331.00	331.00	98.6	0.0
331.00	331.00	263.5	187.6
16.667	60.55		
331.00	12720.50	2325.2	2405.8
18.500			
12720.50	12720.50	187.6	0.0

12720.50	127.00	Convex Routing:	Stream #1	2405.8	2401.6
18.583					
12710.00	127.00	Subarea (UH) Added to	Stream #2	0.0	34.0
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	2401.6	2404.9
18.583					
127.00	127.00	Zero Out:	Stream #2	34.0	0.0
50150.00	127.00	Subarea (UH) Added to	Stream #2	0.0	51.4
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	2404.9	2413.9
18.583					
127.00	127.00	Zero Out:	Stream #2	51.4	0.0
127.00	129.00	Convex Routing:	Stream #1	2413.9	2403.4
18.750					
50300.00	129.00	Subarea (UH) Added to	Stream #2	0.0	33.8
16.500					
129.00	129.00	Stream #2 Added to:	Stream #1	2403.4	2408.4
18.750					
129.00	129.00	Zero Out:	Stream #2	33.8	0.0
210.00	221.00	Subarea (UH) Added to	Stream #2	0.0	46.0
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	46.0	15.0
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	15.0	12.0
17.417	3.47				
221.00	222.00	Flow-Through Basin:	Stream #5	31.0	5.2
18.417	4.70				
223.00	222.00	Stream #5 Added to:	Stream #2	12.0	17.2
17.417					
222.00	222.00	Zero Out:	Stream #5	5.2	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	2408.4	2423.4
18.750					
129.00	129.00	Zero Out:	Stream #2	17.2	0.0
129.00	133.00	Convex Routing:	Stream #1	2423.4	2419.3
18.833					
13010.00	132.00	Subarea (UH) Added to	Stream #2	0.0	320.6
17.000					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0534UC.DAT ]
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-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
-----+
| 132.00 132.00| Flowby Basin Model: Stream #2| 320.6 320.6|
17.000 | |
| 132.00 132.00| Zero Out: Stream #3| 0.0 0.0|
| | |
| 132.00 132.00| Zero Out: Stream #4| 0.0 0.0|
| | |
| 132.00 13305.00| Convex Routing: Stream #2| 320.6 312.2|
17.500 | |
| 13305.00 133.00| Convex Routing: Stream #2| 312.2 310.4|
17.833 | |
-----+
| 132.00 133.00| Subarea (UH) Added to Stream #3| 0.0 162.5|
16.750 | |
| 133.00 133.00| Stream #3 Added to: Stream #2| 310.4 421.2|
17.667 | |
| 133.00 133.00| Zero Out: Stream #3| 162.5 0.0|
| | |
| 133.00 133.00| Stream #2 Added to: Stream #1| 2419.3 2727.6|
18.417 | |
| 133.00 133.00| Zero Out: Stream #2| 421.2 0.0|
| | |
-----+
| 133.00 134.00| Convex Routing: Stream #1| 2727.6 2724.7|
18.583 | |
| 133.00 134.00| Subarea (UH) Added to Stream #2| 0.0 160.4|
16.500 | |
| 134.00 134.00| Stream #2 Added to: Stream #1| 2724.7 2762.8|
18.500 | |
| 134.00 134.00| Zero Out: Stream #2| 160.4 0.0|
| | |
| 134.00 134.00| View: Stream #1| 2762.8|
18.500 | 2486.78| 3 |
-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM
-----+

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END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV1033CC.DAT
TIME/DATE OF STUDY: 14:12 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.312 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.305 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.297
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.260 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.385
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408

```

3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.394 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.778
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```



SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.450 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.898  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.389 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.855  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.410 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.855
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.268 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.391
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.938 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.727  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00         0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00         0.00         0.000
      2              1.50         0.01         0.002
      3              2.00         0.02         1.900
      4              4.00         0.03         16.100
      5              4.30         0.05         18.200
      6              5.00         314.00       23.200
      7              6.00         1306.00      30.300
      8              7.00         2847.00      39.100
      9              8.00         4942.00      47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00         0.00         0.000
      2              0.99         2.90         0.900
      3              1.99         11.38        2.900
      4              3.99         19.63        10.300
      5              5.99         25.19        20.700
      6              7.99         29.71        31.700
      7              9.99         33.62        43.500
      8              10.99        35.49        49.700
      9              11.99        313.49       56.400
     10              12.99        894.27       63.100
     11              13.99       1748.55      69.900
     12              15.99       4306.91     84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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,

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.688 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.618  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

=====

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+-----+
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV1033CC.DAT ]
| Page: 1 of |
+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
|TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
| PEAK (HR)  | MODELED (AF)| FOOTNOTES |
+-----+
| 10100.00   119.00| Subarea (UH) Added to Stream #1|      0.0   6560.7|
18.333 |
| 119.00     126.00| Convex Routing:      Stream #1|  6560.7   6528.9|
18.500 |
| 40400.00   126.00| Subarea (UH) Added to Stream #2|      0.0   149.7|
16.417 |
| 126.00     126.00| Stream #2 Added to:  Stream #1|  6528.9   6539.9|
18.500 |
| 126.00     126.00| Zero Out:           Stream #2|  149.7    0.0|
|
+-----+
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0   23.3|
16.417 |
| 126.00     126.00| Stream #2 Added to:  Stream #1|  6539.9   6541.6|
18.500 |
| 126.00     126.00| Zero Out:           Stream #2|  23.3     0.0|
|
| 126.00   12720.50| Convex Routing:      Stream #1|  6541.6   6505.5|
18.583 |
| 320.00    331.00| Subarea (UH) Added to Stream #2|      0.0   264.5|
16.333 |
+-----+
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0   172.6|
16.333 |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0   21.3|
16.500 |
| 331.00     331.00| Stream #4 Added to:  Stream #2|  264.5   283.3|
16.333 |
| 331.00     331.00| Zero Out:           Stream #4|  21.3     0.0|
|
| 331.00     331.00| Stream #3 Added to:  Stream #2|  283.3   455.9|
16.333 |
+-----+
| 331.00     331.00| Zero Out:           Stream #3|  172.6    0.0|
|
| 331.00     331.00| Flow-Through Basin: Stream #2|  455.9   309.9|
16.583 | 67.23|
| 331.00   12720.50| Stream #2 Added to:  Stream #1|  6505.5   6672.3|
18.583 |
| 12720.50  12720.50| Zero Out:           Stream #2|  309.9    0.0|
|

```

12720.50	127.00	Convex Routing:	Stream #1	6672.3	6657.5
18.667					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	105.9
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	6657.5	6666.6
18.667					
127.00	127.00	Zero Out:	Stream #2	105.9	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	176.1
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	6666.6	6684.5
18.667					
+-----+					
127.00	127.00	Zero Out:	Stream #2	176.1	0.0
127.00	129.00	Convex Routing:	Stream #1	6684.5	6666.2
18.833					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	106.5
16.500					
129.00	129.00	Stream #2 Added to:	Stream #1	6666.2	6676.0
18.833					
129.00	129.00	Zero Out:	Stream #2	106.5	0.0
+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	79.5
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	79.5	17.1
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	17.1	14.2
17.417	3.76				
221.00	222.00	Flow-Through Basin:	Stream #5	62.3	14.0
17.750	8.91				
223.00	222.00	Stream #5 Added to:	Stream #2	14.2	28.1
17.667					
+-----+					
222.00	222.00	Zero Out:	Stream #5	14.0	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	6676.0	6700.8
18.833					
129.00	129.00	Zero Out:	Stream #2	28.1	0.0
129.00	133.00	Convex Routing:	Stream #1	6700.8	6689.2
18.917					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	685.6
17.000					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 |  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
 |

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV1033CC.DAT ]

Page: 2 of 1

UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00		Flowby Basin Model: Stream #2	685.6	633.4
17.000					
132.00	132.00		Flow-Through Basin: Stream #3	52.2	0.0
18.000	4.00				
132.00	132.00		Split Hydrograph: Stream #3	0.0	0.0
18.000					
132.00	132.00		Flow-Through Basin: Stream #3	0.0	0.0
47.333	0.00				
132.00	132.00		Stream #3 Added to: Stream #2	633.4	633.4
17.000					
132.00	132.00		Zero Out: Stream #3	0.0	0.0
132.00	132.00		Flow-Through Basin: Stream #4	0.0	0.0
69.583	0.01				
132.00	132.00		Stream #4 Added to: Stream #2	633.4	633.4
17.000					
132.00	132.00		Zero Out: Stream #4	0.0	0.0
132.00	13305.00		Convex Routing: Stream #2	633.4	609.7
17.417					
13305.00	133.00		Convex Routing: Stream #2	609.7	604.1
17.833					
132.00	133.00		Subarea (UH) Added to Stream #3	0.0	318.2
16.750					
133.00	133.00		Stream #3 Added to: Stream #2	604.1	786.8
17.667					
133.00	133.00		Zero Out: Stream #3	318.2	0.0
133.00	133.00		Stream #2 Added to: Stream #1	6689.2	7373.9
17.917					
133.00	133.00		Zero Out: Stream #2	786.8	0.0
133.00	133.00		View: Stream #1		7373.9
17.917	5503.68	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL

3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS



\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133T \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV JUNE 2023 ROKAMOTO \*

FILE NAME: EV1033TC.DAT
TIME/DATE OF STUDY: 15:16 06/29/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.938 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.727
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qenter (CFS), Qpass (CFS). Rows include values for 1 and 2.

Table with 3 columns: Node, Value 1, Value 2. Rows 3, 4, 5.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-9.

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.49	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900

11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION (FT) = 427.51; DOWNSTREAM ELEVATION (FT) = 315.00  
CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION (FT) = 315.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.688 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.618
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

Table with columns: TIME (2) TO, NODE #, PEAK (CFS), PEAK (CFS). Rows include: 13010.00, 17.000, 17.000, 17.583, 17.583, 18.250, 17.000, 18.250, 17.000, 17.583, 17.500, 17.500, 17.500, 17.500.

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL |  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |

+-----+  
-----+

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV1033UC.DAT
TIME/DATE OF STUDY: 15:32 05/16/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.312 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.32; 6-HOUR = 1.83; 24-HOUR = 3.06
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.32; 6-HOUR = 1.83; 24-HOUR = 3.06
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.305 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.297
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.32; 6-HOUR = 1.83; 24-HOUR = 3.06
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.260 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.385
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.32; 6-HOUR = 1.83; 24-HOUR = 3.06
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422

```

3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.394 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.778
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.32; 6-HOUR = 1.83; 24-HOUR = 3.06
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.450 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.898  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79  
3-HOUR = 1.32; 6-HOUR = 1.83; 24-HOUR = 3.06  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.389 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.855  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79  
3-HOUR = 1.32; 6-HOUR = 1.83; 24-HOUR = 3.06  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.410 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.855
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.32; 6-HOUR = 1.83; 24-HOUR = 3.06
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.268 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.391
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.32; 6-HOUR = 1.83; 24-HOUR = 3.06
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```



6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11  
-----

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<  
-----

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV1033UC.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	6910.7
18.333					
119.00	126.00		Convex Routing: Stream #1	6910.7	6871.3
18.500					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	170.4
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	6871.3	6882.3
18.500					
126.00	126.00		Zero Out: Stream #2	170.4	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	26.4
16.417					
126.00	126.00		Stream #2 Added to: Stream #1	6882.3	6884.0
18.500					
126.00	126.00		Zero Out: Stream #2	26.4	0.0
126.00	12720.50		Convex Routing: Stream #1	6884.0	6850.8
18.583					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	286.8
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	188.0
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	23.8
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	286.8	307.8
16.333					
331.00	331.00		Zero Out: Stream #4	23.8	0.0
331.00	331.00		Stream #3 Added to: Stream #2	307.8	495.8
16.333					
331.00	331.00		Zero Out: Stream #3	188.0	0.0
331.00	331.00		Flow-Through Basin: Stream #2	495.8	334.4
16.583	68.18				
331.00	12720.50		Stream #2 Added to: Stream #1	6850.8	7019.2
18.583					
12720.50	12720.50		Zero Out: Stream #2	334.4	0.0

12720.50	127.00		Convex Routing: Stream #1	7019.2	7005.2
18.667					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	120.9
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	7005.2	7014.4
18.667					
127.00	127.00		Zero Out: Stream #2	120.9	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	200.8
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	7014.4	7032.4
18.667					
127.00	127.00		Zero Out: Stream #2	200.8	0.0
127.00	129.00		Convex Routing: Stream #1	7032.4	7010.5
18.833					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	120.3
16.500					
129.00	129.00		Stream #2 Added to: Stream #1	7010.5	7020.3
18.833					
129.00	129.00		Zero Out: Stream #2	120.3	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	86.5
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	86.5	17.6
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	17.6	14.3
17.333	3.78				
221.00	222.00		Flow-Through Basin: Stream #5	68.9	14.9
17.667	9.27				
223.00	222.00		Stream #5 Added to: Stream #2	14.3	29.1
17.583					
222.00	222.00		Zero Out: Stream #5	14.9	0.0
222.00	129.00		Stream #2 Added to: Stream #1	7020.3	7046.3
18.833					
129.00	129.00		Zero Out: Stream #2	29.1	0.0
129.00	133.00		Convex Routing: Stream #1	7046.3	7032.5
18.917					
133.00	133.00		View: Stream #1		7032.5
18.917	5112.28	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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-----+
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV1033UC.DAT ]
Page: 2 of |
-----+-----+-----+-----+
-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |
PEAK (HR) | MODELED (AF) | FOOTNOTES |
-----+-----+-----+-----+
-----+-----+-----+-----+

```

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV1034CC.DAT
TIME/DATE OF STUDY: 16:20 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.312 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.305 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.297
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.260 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.385
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397

```

3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.394 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.778
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.450 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.898  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.389 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.855  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.410 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.855
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.268 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.391
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                  0.00          0.00          0.000
          2                  1.00          0.01          0.310
          3                  2.00          0.83          1.240
          4                  3.00          5.60          2.600
          5                  4.00          16.88         4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.938 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.727  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933



```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1             0.00         0.00         0.000
      2             1.50         0.01         0.002
      3             2.00         0.02         1.900
      4             4.00         0.03         16.100
      5             4.30         0.05         18.200
      6             5.00         314.00       23.200
      7             6.00         1306.00      30.300
      8             7.00         2847.00      39.100
      9             8.00         4942.00      47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1             0.00         0.00         0.000
      2             0.99         2.90         0.900
      3             1.99         11.38        2.900
      4             3.99         19.63        10.300
      5             5.99         25.19        20.700
      6             7.99         29.71        31.700
      7             9.99         33.62        43.500
      8            10.99         35.49        49.700
      9            11.99        313.49       56.400
     10            12.99        894.27       63.100
     11            13.99       1748.55      69.900
     12            15.99       4306.91     84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.688 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.618  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.390 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.690  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.489 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.760  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV1034CC.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	6301.2
18.333					
119.00	126.00		Convex Routing: Stream #1	6301.2	6274.5
18.500					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	139.3
16.417					
126.00	126.00		Stream #2 Added to: Stream #1	6274.5	6285.5
18.500					
126.00	126.00		Zero Out: Stream #2	139.3	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	21.7
16.417					
126.00	126.00		Stream #2 Added to: Stream #1	6285.5	6287.2
18.500					
126.00	126.00		Zero Out: Stream #2	21.7	0.0
126.00	12720.50		Convex Routing: Stream #1	6287.2	6248.0
18.583					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	253.9
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	165.0
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	20.1
16.500					
331.00	331.00		Stream #4 Added to: Stream #2	253.9	271.6
16.333					
331.00	331.00		Zero Out: Stream #4	20.1	0.0
331.00	331.00		Stream #3 Added to: Stream #2	271.6	436.6
16.333					
331.00	331.00		Zero Out: Stream #3	165.0	0.0
331.00	331.00		Flow-Through Basin: Stream #2	436.6	297.5
16.583	66.75				
331.00	12720.50		Stream #2 Added to: Stream #1	6248.0	6415.5
18.583					
12720.50	12720.50		Zero Out: Stream #2	297.5	0.0

12720.50	127.00		Convex Routing: Stream #1	6415.5	6400.1
18.667					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	98.5
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	6400.1	6409.3
18.667					
127.00	127.00		Zero Out: Stream #2	98.5	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	164.4
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	6409.3	6427.3
18.667					
127.00	127.00		Zero Out: Stream #2	164.4	0.0
127.00	129.00		Convex Routing: Stream #1	6427.3	6411.3
18.833					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	99.6
16.500					
129.00	129.00		Stream #2 Added to: Stream #1	6411.3	6421.1
18.833					
129.00	129.00		Zero Out: Stream #2	99.6	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	75.9
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	75.9	16.9
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	16.9	14.1
17.417	3.75				
221.00	222.00		Flow-Through Basin: Stream #5	59.0	13.5
17.917	8.79				
223.00	222.00		Stream #5 Added to: Stream #2	14.1	27.5
17.833					
222.00	222.00		Zero Out: Stream #5	13.5	0.0
222.00	129.00		Stream #2 Added to: Stream #1	6421.1	6445.6
18.833					
129.00	129.00		Zero Out: Stream #2	27.5	0.0
129.00	133.00		Convex Routing: Stream #1	6445.6	6435.5
18.917					
13010.00	132.00		Subarea (UH) Added to Stream #2	0.0	654.8
17.000					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV1034CC.DAT ]
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-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----+-----+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2|    654.8    608.5|
17.000 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3|    46.3     0.0|
18.000 | 3.38| |
| 132.00    132.00| Split Hydrograph:   Stream #3|    0.0     0.0|
18.000 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3|    0.0     0.0|
47.500 | 0.00| |
| 132.00    132.00| Stream #3 Added to:  Stream #2|    608.5    608.5|
17.000 | | |
-----+-----+-----+-----+
| 132.00    132.00| Zero Out:           Stream #3|    0.0     0.0|
| | |
| 132.00    132.00| Flow-Through Basin:  Stream #4|    0.0     0.0|
69.417 | 0.01| |
| 132.00    132.00| Stream #4 Added to:  Stream #2|    608.5    608.5|
17.000 | | |
| 132.00    132.00| Zero Out:           Stream #4|    0.0     0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2|    608.5    586.3|
17.417 | | |
-----+-----+-----+-----+
| 13305.00    133.00| Convex Routing:     Stream #2|    586.3    581.3|
17.833 | | |
| 132.00    133.00| Subarea (UH) Added to Stream #3|    0.0    304.8|
16.750 | | |
| 133.00    133.00| Stream #3 Added to:  Stream #2|    581.3    761.6|
17.667 | | |
| 133.00    133.00| Zero Out:           Stream #3|    304.8     0.0|
| | |
| 133.00    133.00| Stream #2 Added to:  Stream #1|   6435.5   7120.8|
17.917 | | |
-----+-----+-----+-----+
| 133.00    133.00| Zero Out:           Stream #2|    761.6     0.0|
| | |
| 133.00    134.00| Convex Routing:     Stream #1|   7120.8   7110.7|
18.167 | | |
| 133.00    134.00| Subarea (UH) Added to Stream #2|    0.0    343.1|
16.417 | | |
| 134.00    134.00| Stream #2 Added to:  Stream #1|   7110.7   7217.6|
18.167 | | |

```

	134.00	134.00	Zero Out:	Stream #2	343.1	0.0	
+-----+-----+-----+-----+-----+							
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	391.0	
17.500							
	134.00	134.00	Stream #2 Added to:	Stream #1	7217.6	7543.8	
18.083							
	134.00	134.00	Zero Out:	Stream #2	391.0	0.0	
	134.00	134.00	View:	Stream #1		7543.8	
18.083		5787.72	3				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV1034UC.DAT
TIME/DATE OF STUDY: 16:20 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.312 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.305 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.297
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.260 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.385
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405

```

3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.394 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.778
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```



SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.450 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.898  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.389 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.855  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.410 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.855
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.268 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.391
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.938 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.727  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         1.50    0.01    0.002
      3         2.00    0.02    1.900
      4         4.00    0.03    16.100
      5         4.30    0.05    18.200
      6         5.00   314.00   23.200
      7         6.00  1306.00  30.300
      8         7.00  2847.00  39.100
      9         8.00  4942.00  47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         0.99    2.90    0.900
      3         1.99   11.38    2.900
      4         3.99   19.63   10.300
      5         5.99   25.19   20.700
      6         7.99   29.71   31.700
      7         9.99   33.62   43.500
      8        10.99   35.49   49.700
      9        11.99  313.49  56.400
     10        12.99  894.27  63.100
     11        13.99 1748.55  69.900
     12        15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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,

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.688 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.618  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.390 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.690
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

Table with columns: TIME(2) TO, NODE #, UPSTREAM, DOWNSTREAM, MAX. STORAGE, HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Includes summary header: \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

12720.50	127.00	Convex Routing:	Stream #1	6591.5	6576.9
18.667					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	103.3
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	6576.9	6586.0
18.667					
127.00	127.00	Zero Out:	Stream #2	103.3	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	171.7
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	6586.0	6603.9
18.667					
+-----+					
127.00	127.00	Zero Out:	Stream #2	171.7	0.0
127.00	129.00	Convex Routing:	Stream #1	6603.9	6586.4
18.833					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	104.0
16.500					
129.00	129.00	Stream #2 Added to:	Stream #1	6586.4	6596.2
18.833					
129.00	129.00	Zero Out:	Stream #2	104.0	0.0
+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	78.2
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	78.2	17.0
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	17.0	14.1
17.417	3.76				
221.00	222.00	Flow-Through Basin:	Stream #5	61.2	13.8
17.833	8.87				
223.00	222.00	Stream #5 Added to:	Stream #2	14.1	27.9
17.750					
+-----+					
222.00	222.00	Zero Out:	Stream #5	13.8	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	6596.2	6620.9
18.833					
129.00	129.00	Zero Out:	Stream #2	27.9	0.0
129.00	133.00	Convex Routing:	Stream #1	6620.9	6609.8
18.917					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	674.8
17.000					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV1034UC.DAT ]

Page: 2 of

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	674.8	624.7
132.00	132.00	50.1	0.0
132.00	132.00	0.0	0.0
132.00	132.00	0.0	0.0
132.00	132.00	624.7	624.7

132.00	132.00	Flowby Basin Model:	Stream #2	674.8	624.7
132.00	132.00	Flow-Through Basin:	Stream #3	50.1	0.0
132.00	132.00	Split Hydrograph:	Stream #3	0.0	0.0
132.00	132.00	Flow-Through Basin:	Stream #3	0.0	0.0
132.00	132.00	Stream #3 Added to:	Stream #2	624.7	624.7

132.00	132.00	Zero Out:	Stream #3	0.0	0.0
132.00	132.00	Flow-Through Basin:	Stream #4	0.0	0.0
132.00	132.00	Stream #4 Added to:	Stream #2	624.7	624.7
132.00	132.00	Zero Out:	Stream #4	0.0	0.0
132.00	13305.00	Convex Routing:	Stream #2	624.7	601.6

13305.00	133.00	Convex Routing:	Stream #2	601.6	596.3
132.00	133.00	Subarea (UH) Added to	Stream #3	0.0	313.7
133.00	133.00	Stream #3 Added to:	Stream #2	596.3	779.0
133.00	133.00	Zero Out:	Stream #3	313.7	0.0
133.00	133.00	Stream #2 Added to:	Stream #1	6609.8	7295.4

133.00	133.00	Zero Out:	Stream #2	779.0	0.0
133.00	134.00	Convex Routing:	Stream #1	7295.4	7284.8
133.00	134.00	Subarea (UH) Added to	Stream #2	0.0	355.4
134.00	134.00	Stream #2 Added to:	Stream #1	7284.8	7390.5

134.00	134.00	Zero Out:	Stream #2	355.4	0.0
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134.00	134.00	View:	Stream #1	7390.5
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Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS



\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 126 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV DEC 2022 ROKAMOTO \*

FILE NAME: EVO2126F.DAT
TIME/DATE OF STUDY: 07:51 12/13/2022

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 5.382 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.595; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.16; 30-MINUTE = 0.30; 1-HOUR = 0.41
3-HOUR = 0.77; 6-HOUR = 1.15; 24-HOUR = 2.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.428 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.592; LOW LOSS FRACTION = 0.982
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.85; 24-HOUR = 1.44
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.419 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.582; LOW LOSS FRACTION = 0.967
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.85; 24-HOUR = 1.44
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

-----+  
| \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*  
|

| INPUT FILENAME: [EV02126F.DAT ]  
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-----+-----+-----+  
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|  
TIME (2) TO | MAX. STORAGE| |  
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |  
PEAK (HR) | MODELED (AF) | FOOTNOTES |

-----+-----+-----+  
| 10100.00 119.00| Subarea (UH) Added to Stream #1| 0.0 520.1|  
20.417 | | |  
| 119.00 126.00| Convex Routing: Stream #1| 520.1 517.0|  
20.583 | | |  
| 40400.00 126.00| Subarea (UH) Added to Stream #2| 0.0 3.1|  
16.500 | | |  
| 126.00 126.00| Stream #2 Added to: Stream #1| 517.0 517.5|  
20.583 | | |  
| 126.00 126.00| Zero Out: Stream #2| 3.1 0.0|  
| | |

-----+-----+-----+  
| 600.00 126.00| Subarea (UH) Added to Stream #2| 0.0 0.9|  
16.500 | | |  
| 126.00 126.00| Stream #2 Added to: Stream #1| 517.5 517.7|  
20.583 | | |  
126.00 126.00	Zero Out: Stream #2	0.9 0.0
126.00 126.00	View: Stream #1	517.7
20.583 | 547.27| 3 |

-----+-----+-----+  
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL |  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |

-----+  
END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 127 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV02127C.DAT
TIME/DATE OF STUDY: 15:00 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 5.382 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.595; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.17; 30-MINUTE = 0.32; 1-HOUR = 0.44
3-HOUR = 0.82; 6-HOUR = 1.23; 24-HOUR = 2.17
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 127.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.428 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.592; LOW LOSS FRACTION = 0.982
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.419 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.582; LOW LOSS FRACTION = 0.967
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.201; LOW LOSS FRACTION = 0.412
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.315 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.270; LOW LOSS FRACTION = 0.508
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424

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```

3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.578 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.566; LOW LOSS FRACTION = 0.925
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
-----  
WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.486 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.586; LOW LOSS FRACTION = 0.976  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.589 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.589; LOW LOSS FRACTION = 0.962  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40  
3-HOUR = 0.66; 6-HOUR = 0.91; 24-HOUR = 1.54  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

```

-----+-----
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV02127C.DAT ]
| Page: 1 of |
+-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM| |
| TIME (2) TO | MAX. STORAGE|                                     |                                     |
| NODE #      NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
| PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+-----+-----+-----+
| 10100.00    119.00| Subarea (UH) Added to Stream #1|      0.0    574.5|
20.417 |                                     |
| 119.00      126.00| Convex Routing:      Stream #1|    574.5    569.0|
20.583 |                                     |
| 40400.00    127.00| Subarea (UH) Added to Stream #2|      0.0      3.3|
16.500 |                                     |
| 126.00      126.00| Stream #2 Added to:  Stream #1|    569.0    569.6|
20.583 |                                     |
| 126.00      126.00| Zero Out:           Stream #2|      3.3      0.0|
|                                     |
+-----+-----+-----+-----+
| 600.00      126.00| Subarea (UH) Added to Stream #2|      0.0      0.9|
16.500 |                                     |
| 126.00      126.00| Stream #2 Added to:  Stream #1|    569.6    569.7|
20.583 |                                     |
| 126.00      126.00| Zero Out:           Stream #2|      0.9      0.0|
|                                     |
| 126.00     12720.50| Convex Routing:      Stream #1|    569.7    568.3|
20.750 |                                     |
| 320.00      331.00| Subarea (UH) Added to Stream #2|      0.0     104.7|
16.417 |                                     |
+-----+-----+-----+-----+
| 400.00      331.00| Subarea (UH) Added to Stream #3|      0.0     57.7|
16.333 |                                     |
| 390.00      331.00| Subarea (UH) Added to Stream #4|      0.0      1.8|
16.667 |                                     |
| 331.00      331.00| Stream #4 Added to:  Stream #2|    104.7    106.3|
16.417 |                                     |
| 331.00      331.00| Zero Out:           Stream #4|      1.8      0.0|
|                                     |
| 331.00      331.00| Stream #3 Added to:  Stream #2|    106.3    163.9|
16.417 |                                     |
+-----+-----+-----+-----+
| 331.00      331.00| Zero Out:           Stream #3|      57.7      0.0|
|                                     |
| 331.00      331.00| Flow-Through Basin: Stream #2|    163.9     82.3|
17.500 |      54.22|                                     |
| 331.00     12720.50| Stream #2 Added to:  Stream #1|    568.3    610.0|
20.750 |                                     |
| 12720.50    12720.50| Zero Out:           Stream #2|      82.3      0.0|
|                                     |

```

12720.50	127.00	Convex Routing:	Stream #1	610.0	608.8
20.833					
+-----+-----+-----+-----+-----+					
12710.00	127.00	Subarea (UH) Added to	Stream #2	0.0	3.7
16.583					
127.00	127.00	Stream #2 Added to:	Stream #1	608.8	609.4
20.833					
127.00	127.00	Zero Out:	Stream #2	3.7	0.0
50150.00	127.00	Subarea (UH) Added to	Stream #2	0.0	8.3
16.667					
127.00	127.00	Stream #2 Added to:	Stream #1	609.4	610.9
20.833					
+-----+-----+-----+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	8.3	0.0
127.00	127.00	View:	Stream #1	610.9	
20.833	643.75	3			
+-----+-----+-----+-----+-----+					
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL					
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM					
+-----+-----+-----+-----+-----+					

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 137 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV02137C.DAT
TIME/DATE OF STUDY: 16:33 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 5.382 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.595; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.17; 30-MINUTE = 0.32; 1-HOUR = 0.43
3-HOUR = 0.81; 6-HOUR = 1.21; 24-HOUR = 2.13
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.428 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.592; LOW LOSS FRACTION = 0.982
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.419 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.582; LOW LOSS FRACTION = 0.967
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<



```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.201; LOW LOSS FRACTION = 0.412
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.315 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.270; LOW LOSS FRACTION = 0.508
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394

```

3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.578 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.566; LOW LOSS FRACTION = 0.925
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.486 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.586; LOW LOSS FRACTION = 0.976  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39  
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.589 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.589; LOW LOSS FRACTION = 0.962  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39  
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.627 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.564; LOW LOSS FRACTION = 0.940
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.309 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.256; LOW LOSS FRACTION = 0.498
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.262 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39  
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR           Qcenter           Qpass
      NUMBER              (CFS)             (CFS)
      -                   0.00              0.00
      1                   413.00            413.00
      2                   1897.00           1613.00
      3                   4682.00            3013.00
      4                   6819.00            4013.00
      5                   8100.00            4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01      CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05      MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.948 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.449; LOW LOSS FRACTION = 0.752  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39  
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.453 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.490; LOW LOSS FRACTION = 0.819  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39  
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 2.991 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.567; LOW LOSS FRACTION = 0.908  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39

3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394

3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00  
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

-----  
WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.563 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.474; LOW LOSS FRACTION = 0.780  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39  
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.51  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7  
-----

-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 11  
-----

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

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UPSTREAM TIME (2) PEAK (HR)	DOWNSTREAM NODE # MODELED (AF)	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)	PROCESS
10100.00	119.00	0.0	530.3	Subarea (UH) Added to Stream #1
20.417				
119.00	126.00	530.3	528.3	Convex Routing: Stream #1
20.583				
40400.00	126.00	0.0	2.9	Subarea (UH) Added to Stream #2
16.500				
126.00	126.00	528.3	528.9	Stream #2 Added to: Stream #1
20.583				
126.00	126.00	2.9	0.0	Zero Out: Stream #2
600.00	126.00	0.0	0.8	Subarea (UH) Added to Stream #2
16.500				
126.00	126.00	528.9	529.0	Stream #2 Added to: Stream #1
20.583				
126.00	126.00	0.8	0.0	Zero Out: Stream #2
126.00	12720.50	529.0	528.3	Convex Routing: Stream #1
20.750				
320.00	331.00	0.0	89.8	Subarea (UH) Added to Stream #2
16.417				
400.00	331.00	0.0	50.2	Subarea (UH) Added to Stream #3
16.333				
390.00	331.00	0.0	1.6	Subarea (UH) Added to Stream #4
16.667				
331.00	331.00	89.8	91.3	Stream #4 Added to: Stream #2
16.417				
331.00	331.00	1.6	0.0	Zero Out: Stream #4
331.00	331.00	91.3	141.4	Stream #3 Added to: Stream #2
16.417				
331.00	331.00	50.2	0.0	Zero Out: Stream #3
331.00	331.00	141.4	70.2	Flow-Through Basin: Stream #2
17.833	53.49			
331.00	12720.50	528.3	570.9	Stream #2 Added to: Stream #1
20.000				
12720.50	12720.50	70.2	0.0	Zero Out: Stream #2

12720.50	127.00	570.9	570.4	Convex Routing: Stream #1
20.083				
12710.00	127.00	0.0	3.3	Subarea (UH) Added to Stream #2
16.583				
127.00	127.00	570.4	571.1	Stream #2 Added to: Stream #1
20.083				
127.00	127.00	3.3	0.0	Zero Out: Stream #2
50150.00	127.00	0.0	7.5	Subarea (UH) Added to Stream #2
16.667				
127.00	127.00	571.1	572.8	Stream #2 Added to: Stream #1
20.083				
127.00	127.00	7.5	0.0	Zero Out: Stream #2
127.00	129.00	572.8	572.0	Convex Routing: Stream #1
20.333				
50300.00	129.00	0.0	6.9	Subarea (UH) Added to Stream #2
16.667				
129.00	129.00	572.0	573.5	Stream #2 Added to: Stream #1
20.333				
129.00	129.00	6.9	0.0	Zero Out: Stream #2
210.00	221.00	0.0	24.0	Subarea (UH) Added to Stream #2
16.333				
221.00	221.00	24.0	13.0	Flowby Basin Model: Stream #2
16.333				
221.00	223.00	13.0	5.5	Flow-Through Basin: Stream #2
18.167	2.57			
221.00	222.00	10.9	3.8	Flow-Through Basin: Stream #5
18.333	2.03			
223.00	222.00	5.5	9.3	Stream #5 Added to: Stream #2
18.167				
222.00	222.00	3.8	0.0	Zero Out: Stream #5
222.00	129.00	573.5	581.4	Stream #2 Added to: Stream #1
20.333				
129.00	129.00	9.3	0.0	Zero Out: Stream #2
129.00	133.00	581.4	580.9	Convex Routing: Stream #1
20.417				
13010.00	132.00	0.0	137.3	Subarea (UH) Added to Stream #2
17.333				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM



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+-----+
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV02137C.DAT ]
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+-----+
|UPSTREAM  DOWNSTREAM|                                     | UPSTREAM  DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS)  PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 137.3    137.3|
17.333 |                                     |
| 132.00    132.00| Zero Out:           Stream #3| 0.0      0.0|
|                                     |
| 132.00    132.00| Zero Out:           Stream #4| 0.0      0.0|
|                                     |
| 132.00    13305.00| Convex Routing:     Stream #2| 137.3    136.0|
17.917 |                                     |
| 13305.00    133.00| Convex Routing:     Stream #2| 136.0    135.4|
18.250 |                                     |
+-----+
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0      72.7|
17.000 |                                     |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 135.4    197.8|
17.167 |                                     |
| 133.00    133.00| Zero Out:           Stream #3| 72.7     0.0|
|                                     |
| 133.00    133.00| Stream #2 Added to:  Stream #1| 580.9    688.7|
18.583 |                                     |
| 133.00    133.00| Zero Out:           Stream #2| 197.8    0.0|
|                                     |
+-----+
| 133.00    134.00| Convex Routing:     Stream #1| 688.7    688.5|
18.833 |                                     |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0      61.1|
16.500 |                                     |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 688.5    707.0|
18.583 |                                     |
| 134.00    134.00| Zero Out:           Stream #2| 61.1     0.0|
|                                     |
| 13500.00    134.00| Subarea (UH) Added to Stream #2| 0.0      50.2|
18.500 |                                     |
+-----+
| 134.00    134.00| Stream #2 Added to:  Stream #1| 707.0    757.1|
18.500 |                                     |
| 134.00    134.00| Zero Out:           Stream #2| 50.2     0.0|
|                                     |
| 134.00    137.00| Convex Routing:     Stream #1| 757.1    756.3|
18.750 |                                     |
| 134.00    137.00| Subarea (UH) Added to Stream #2| 0.0      50.6|
16.667 |                                     |

```

	137.00	137.00	Stream #2 Added to:	Stream #1	756.3	775.4
18.667						
+-----+-----+-----+-----+-----+-----+						
	137.00	137.00	Zero Out:	Stream #2	50.6	0.0
	137.00	137.00	View:	Stream #1		775.4
18.667		887.12	3			
+-----+-----+-----+-----+-----+-----+						

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM  
|

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 138 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EVO2138C.DAT
TIME/DATE OF STUDY: 16:33 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 5.382 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.595; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.17; 30-MINUTE = 0.31; 1-HOUR = 0.42
3-HOUR = 0.79; 6-HOUR = 1.18; 24-HOUR = 2.09
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.428 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.592; LOW LOSS FRACTION = 0.982
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.48
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.419 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.582; LOW LOSS FRACTION = 0.967
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.201; LOW LOSS FRACTION = 0.412
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.315 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.270; LOW LOSS FRACTION = 0.508
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392

```

3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.578 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.566; LOW LOSS FRACTION = 0.925
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.486 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.586; LOW LOSS FRACTION = 0.976  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.589 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.589; LOW LOSS FRACTION = 0.962  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.627 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.564; LOW LOSS FRACTION = 0.940
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.309 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.256; LOW LOSS FRACTION = 0.498
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
DATA PAIR Qcenter Qpass
NUMBER (CFS) (CFS)
- 0.00 0.00
1 25.00 13.59
2 75.00 16.84
3 100.00 18.46
4 250.00 28.22
5 550.00 47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.262 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR           Qenter           Qpass
      NUMBER              (CFS)             (CFS)
      -                   0.00             0.00
      1                   413.00            413.00
      2                   1897.00           1613.00
      3                   4685.00            3013.00
      4                   6819.00            4013.00
      5                   8100.00            4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01      CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05      MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.948 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.449; LOW LOSS FRACTION = 0.752  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.453 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.490; LOW LOSS FRACTION = 0.819  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.50  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 2.991 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.567; LOW LOSS FRACTION = 0.908  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.44  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00  
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.563 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.474; LOW LOSS FRACTION = 0.780  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7  
-----

-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70  
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.928 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.534; LOW LOSS FRACTION = 0.861  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

```

=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 11
=====
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

```

```

-----+-----
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV02138C.DAT ]
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-----+-----
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----
| 10100.00  119.00| Subarea (UH) Added to Stream #1|      0.0    518.7|
20.417 |                                     |
| 119.00    126.00| Convex Routing:      Stream #1|    518.7    516.8|
20.583 |                                     |
| 40400.00  126.00| Subarea (UH) Added to Stream #2|      0.0      2.8|
16.500 |                                     |
| 126.00    126.00| Stream #2 Added to:  Stream #1|    516.8    517.3|
20.583 |                                     |
| 126.00    126.00| Zero Out:           Stream #2|      2.8      0.0|
|                                     |
-----+-----
| 600.00    126.00| Subarea (UH) Added to Stream #2|      0.0      0.8|
16.500 |                                     |
| 126.00    126.00| Stream #2 Added to:  Stream #1|    517.3    517.4|
20.583 |                                     |
| 126.00    126.00| Zero Out:           Stream #2|      0.8      0.0|
|                                     |
| 126.00   12720.50| Convex Routing:      Stream #1|    517.4    516.8|
20.750 |                                     |
| 320.00    331.00| Subarea (UH) Added to Stream #2|      0.0     88.5|
16.417 |                                     |
-----+-----
| 400.00    331.00| Subarea (UH) Added to Stream #3|      0.0     49.6|
16.333 |                                     |
| 390.00    331.00| Subarea (UH) Added to Stream #4|      0.0      1.6|
16.667 |                                     |
| 331.00    331.00| Stream #4 Added to:  Stream #2|     88.5    89.9|
16.417 |                                     |
| 331.00    331.00| Zero Out:           Stream #4|      1.6      0.0|
|                                     |
| 331.00    331.00| Stream #3 Added to:  Stream #2|     89.9   139.3|
16.417 |                                     |
-----+-----
| 331.00    331.00| Zero Out:           Stream #3|     49.6      0.0|
|                                     |
| 331.00    331.00| Flow-Through Basin: Stream #2|    139.3     67.5|
18.000 |      53.33|                                     |
| 331.00   12720.50| Stream #2 Added to:  Stream #1|    516.8   559.3|
20.000 |                                     |
| 12720.50  12720.50| Zero Out:           Stream #2|     67.5      0.0|
|                                     |

```

12720.50	127.00	Convex Routing:	Stream #1	559.3	558.8
20.083					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	3.2
16.583					
127.00	127.00	Stream #2 Added to:	Stream #1	558.8	559.5
20.083					
127.00	127.00	Zero Out:	Stream #2	3.2	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	7.3
16.667					
127.00	127.00	Stream #2 Added to:	Stream #1	559.5	561.1
20.083					
+-----+					
127.00	127.00	Zero Out:	Stream #2	7.3	0.0
127.00	129.00	Convex Routing:	Stream #1	561.1	560.4
20.333					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	6.8
16.667					
129.00	129.00	Stream #2 Added to:	Stream #1	560.4	561.9
20.333					
129.00	129.00	Zero Out:	Stream #2	6.8	0.0
+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	23.7
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	23.7	12.9
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	12.9	5.4
18.167	2.54				
221.00	222.00	Flow-Through Basin:	Stream #5	10.8	3.8
18.333	1.99				
223.00	222.00	Stream #5 Added to:	Stream #2	5.4	9.2
18.250					
+-----+					
222.00	222.00	Zero Out:	Stream #5	3.8	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	561.9	569.7
20.333					
129.00	129.00	Zero Out:	Stream #2	9.2	0.0
129.00	133.00	Convex Routing:	Stream #1	569.7	569.2
20.417					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	134.5
17.333					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

|INPUT FILENAME: [EV02138C.DAT ]

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UPSTREAM TIME (2) TO   NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE   NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS 	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
--	--	----------------------------------	------------------------	--------------------------

132.00 17.333	132.00	Flowby Basin Model:	Stream #2	134.5 134.5
132.00	132.00	Zero Out:	Stream #3	0.0 0.0
132.00	132.00	Zero Out:	Stream #4	0.0 0.0
132.00 17.917	13305.00	Convex Routing:	Stream #2	134.5 133.1
13305.00 18.250	133.00	Convex Routing:	Stream #2	133.1 132.5

132.00 17.000	133.00	Subarea (UH) Added to Stream #3		0.0 71.2
133.00 17.167	133.00	Stream #3 Added to: Stream #2		132.5 193.6
133.00	133.00	Zero Out: Stream #3		71.2 0.0
133.00 18.667	133.00	Stream #2 Added to: Stream #1		569.2 675.4
133.00	133.00	Zero Out: Stream #2		193.6 0.0

133.00 18.917	134.00	Convex Routing: Stream #1		675.4 675.2
133.00 16.500	134.00	Subarea (UH) Added to Stream #2		0.0 60.0
134.00 18.667	134.00	Stream #2 Added to: Stream #1		675.2 692.6
134.00	134.00	Zero Out: Stream #2		60.0 0.0
13500.00 18.000	134.00	Subarea (UH) Added to Stream #2		0.0 49.3

134.00 18.750	134.00	Stream #2 Added to: Stream #1		692.6 741.6
134.00	134.00	Zero Out: Stream #2		49.3 0.0
134.00 18.917	137.00	Convex Routing: Stream #1		741.6 741.2
134.00 16.667	137.00	Subarea (UH) Added to Stream #2		0.0 49.1

137.00 18.667	137.00	Stream #2 Added to: Stream #1		741.2 759.0
------------------	--------	-------------------------------	--	----------------

137.00 18.917	137.00	Zero Out: Stream #2		49.1 0.0
137.00 17.000	138.00	Convex Routing: Stream #1		759.0 758.4
137.00	138.00	Subarea (UH) Added to Stream #2		0.0 30.3
138.00 18.833	138.00	Stream #2 Added to: Stream #1		758.4 774.0
138.00	138.00	Zero Out: Stream #2		30.3 0.0

138.00 18.833	138.00	View: Stream #1		774.0
------------------	--------	-----------------	--	-------

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 139 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 2-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EVO2139C.DAT
TIME/DATE OF STUDY: 16:32 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 5.382 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.595; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.16; 30-MINUTE = 0.31; 1-HOUR = 0.42
3-HOUR = 0.79; 6-HOUR = 1.18; 24-HOUR = 2.08
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.428 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.592; LOW LOSS FRACTION = 0.982
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.419 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.582; LOW LOSS FRACTION = 0.967
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.201; LOW LOSS FRACTION = 0.412
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.315 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.270; LOW LOSS FRACTION = 0.508
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391

```

3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.578 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.566; LOW LOSS FRACTION = 0.925
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL DEPTH OUTFLOW STORAGE
NUMBER (FT) (CFS) (AF)

```

1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

```
*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 258.00; DOWNSTREAM ELEVATION(FT) = 240.00  
CHANNEL LENGTH(FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE(CFS) = 0.00

```
*****
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1
-----
```

```
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
=====
```

```
WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.486 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.586; LOW LOSS FRACTION = 0.976
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
```

```
*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7
-----
```

```
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
```

```
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1
-----
```

```
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
=====
```

```
WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.589 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.589; LOW LOSS FRACTION = 0.962
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
```

```
*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7
-----
```

```
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====
```



```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.627 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.564; LOW LOSS FRACTION = 0.940
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.309 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.256; LOW LOSS FRACTION = 0.498
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                    0.00              0.00
          1                    25.00             13.59
          2                    75.00             16.84
          3                   100.00             18.46
          4                   250.00             28.22
          5                   550.00             47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.120

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	37.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.262 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR           Qcenter           Qpass
      NUMBER              (CFS)             (CFS)
      -                   0.00              0.00
      1                   413.00            413.00
      2                   1897.00           1613.00
      3                   4682.00            3013.00
      4                   6819.00            4013.00
      5                   8100.00            4316.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.948 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.449; LOW LOSS FRACTION = 0.752  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.453 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.490; LOW LOSS FRACTION = 0.819  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 2.991 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.567; LOW LOSS FRACTION = 0.908  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00  
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.563 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.474; LOW LOSS FRACTION = 0.780  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7  
-----

-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70  
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.928 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.534; LOW LOSS FRACTION = 0.861  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):

5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 5.2

-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 119.70; DOWNSTREAM ELEVATION(FT) = 100.00  
CHANNEL LENGTH(FT) = 3107.78 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 1

-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 428.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.290 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.413; LOW LOSS FRACTION = 0.670  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38  
3-HOUR = 0.64; 6-HOUR = 0.87; 24-HOUR = 1.48  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7

-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6

-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 11

-----  
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<  
-----  
-----

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV02139C.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
PEAK (HR)	MODELED (AF)	FOOTNOTES			
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	515.8
20.417					
119.00	126.00		Convex Routing: Stream #1	515.8	514.0
20.583					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	2.8
16.500					
126.00	126.00		Stream #2 Added to: Stream #1	514.0	514.5
20.583					
126.00	126.00		Zero Out: Stream #2	2.8	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	0.8
16.500					
126.00	126.00		Stream #2 Added to: Stream #1	514.5	514.6
20.583					
126.00	126.00		Zero Out: Stream #2	0.8	0.0
126.00	12720.50		Convex Routing: Stream #1	514.6	514.0
20.750					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	87.0
16.417					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	48.9
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	1.6
16.667					
331.00	331.00		Stream #4 Added to: Stream #2	87.0	88.4
16.417					
331.00	331.00		Zero Out: Stream #4	1.6	0.0
331.00	331.00		Stream #3 Added to: Stream #2	88.4	136.7
16.417					
331.00	331.00		Flow-Through Basin: Stream #2	136.7	64.1
18.083	53.12				
331.00	331.00		Zero Out: Stream #3	48.9	0.0
331.00	12720.50		Stream #2 Added to: Stream #1	514.0	555.9
20.000					
12720.50	12720.50		Zero Out: Stream #2	64.1	0.0

12720.50	127.00		Convex Routing: Stream #1	555.9	555.4
20.083					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	3.2
16.583					
127.00	127.00		Stream #2 Added to: Stream #1	555.4	556.1
20.083					
127.00	127.00		Zero Out: Stream #2	3.2	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	7.3
16.667					
127.00	127.00		Stream #2 Added to: Stream #1	556.1	557.7
20.083					
127.00	127.00		Zero Out: Stream #2	7.3	0.0
127.00	129.00		Convex Routing: Stream #1	557.7	557.0
20.333					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	6.7
16.667					
129.00	129.00		Stream #2 Added to: Stream #1	557.0	558.5
20.333					
129.00	129.00		Zero Out: Stream #2	6.7	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	23.3
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	23.3	12.7
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	12.7	7.7
17.417	2.88				
221.00	222.00		Flow-Through Basin: Stream #5	10.6	3.8
18.333	1.96				
223.00	222.00		Stream #5 Added to: Stream #2	7.7	11.4
17.417					
222.00	222.00		Zero Out: Stream #5	3.8	0.0
222.00	129.00		Stream #2 Added to: Stream #1	558.5	566.7
20.333					
129.00	129.00		Zero Out: Stream #2	11.4	0.0
129.00	133.00		Convex Routing: Stream #1	566.7	566.2
20.417					
13010.00	132.00		Subarea (UH) Added to Stream #2	0.0	133.9
17.333					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV02139C.DAT ]
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-----+-----+-----+-----+
|UPSTREAM  DOWNSTREAM|                                     | UPSTREAM  DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS)  PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----+-----+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 133.9    133.9|
17.333 |
| 132.00    132.00| Zero Out:           Stream #3| 0.0      0.0|
|
| 132.00    132.00| Zero Out:           Stream #4| 0.0      0.0|
|
| 132.00    13305.00| Convex Routing:     Stream #2| 133.9    132.5|
17.917 |
| 13305.00    133.00| Convex Routing:     Stream #2| 132.5    132.0|
18.250 |
-----+-----+-----+-----+
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0      70.8|
17.000 |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 132.0    193.1|
17.167 |
| 133.00    133.00| Zero Out:           Stream #3| 70.8     0.0|
|
| 133.00    133.00| Stream #2 Added to:  Stream #1| 566.2    669.3|
18.667 |
| 132.00    132.00| Zero Out:           Stream #2| 193.1    0.0|
|
-----+-----+-----+-----+
| 133.00    134.00| Convex Routing:     Stream #1| 669.3    669.1|
18.917 |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0      59.2|
16.500 |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 669.1    686.1|
18.667 |
| 134.00    134.00| Zero Out:           Stream #2| 59.2     0.0|
|
| 13500.00    134.00| Subarea (UH) Added to Stream #2| 0.0      49.0|
18.000 |
-----+-----+-----+-----+
| 134.00    134.00| Stream #2 Added to:  Stream #1| 686.1    734.9|
18.750 |
| 134.00    134.00| Zero Out:           Stream #2| 49.0     0.0|
|
| 134.00    137.00| Convex Routing:     Stream #1| 734.9    734.5|
18.917 |
| 134.00    137.00| Subarea (UH) Added to Stream #2| 0.0      49.1|
16.667 |

```



	137.00	137.00	Stream #2 Added to:	Stream #1	734.5	752.6
18.667						
+-----+-----+-----+-----+-----+						
	137.00	137.00	Zero Out:	Stream #2	49.1	0.0
	137.00	138.00	Convex Routing:	Stream #1	752.6	752.1
18.833						
	137.00	138.00	Subarea (UH) Added to	Stream #2	0.0	30.2
17.000						
	138.00	138.00	Stream #2 Added to:	Stream #1	752.1	767.6
18.750						
	138.00	138.00	Zero Out:	Stream #2	30.2	0.0
+-----+-----+-----+-----+-----+						
	138.00	139.00	Convex Routing:	Stream #1	767.6	767.5
18.917						
	138.00	139.00	Subarea (UH) Added to	Stream #2	0.0	31.6
16.333						
	139.00	139.00	Stream #2 Added to:	Stream #1	767.5	774.2
18.917						
	139.00	139.00	Zero Out:	Stream #2	31.6	0.0
	139.00	139.00	View:	Stream #1		774.2
18.917		905.05	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV2533CC.DAT
TIME/DATE OF STUDY: 12:15 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.625
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.300 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.670
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.294 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.268
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.249 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.346
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408

```

3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.373 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.507
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.419 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.655  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.369 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.551  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.386 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.628
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.257 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.356
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.856 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.567  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

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*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00        3013.00
      4              6819.00        4013.00
      5              8100.00        4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         1.50    0.01    0.002
      3         2.00    0.02    1.900
      4         4.00    0.03    16.100
      5         4.30    0.05    18.200
      6         5.00   314.00   23.200
      7         6.00  1306.00  30.300
      8         7.00  2847.00  39.100
      9         8.00  4942.00  47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         0.99    2.90    0.900
      3         1.99   11.38    2.900
      4         3.99   19.63   10.300
      5         5.99   25.19   20.700
      6         7.99   29.71   31.700
      7         9.99   33.62   43.500
      8        10.99   35.49   49.700
      9        11.99  313.49  56.400
     10        12.99  894.27  63.100
     11        13.99 1748.55  69.900
     12        15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.647 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.409  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11



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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV2533CC.DAT ]
Page: 1 of |
+-----+
+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
+-----+
| 10100.00   119.00| Subarea (UH) Added to Stream #1|      0.0   14192.9|
18.167 |
| 119.00     126.00| Convex Routing:      Stream #1| 14192.9   14123.0|
18.250 |
| 40400.00   126.00| Subarea (UH) Added to Stream #2|      0.0    267.5|
16.333 |
| 126.00     126.00| Stream #2 Added to:  Stream #1| 14123.0   14187.0|
18.250 |
| 126.00     126.00| Zero Out:           Stream #2|    267.5    0.0|
|
+-----+
+-----+
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0    40.3|
16.333 |
| 126.00     126.00| Stream #2 Added to:  Stream #1| 14187.0   14195.8|
18.250 |
| 126.00     126.00| Zero Out:           Stream #2|    40.3    0.0|
|
| 126.00   12720.50| Convex Routing:      Stream #1| 14195.8   14180.5|
18.333 |
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0    349.7|
16.333 |
+-----+
+-----+
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0    231.7|
16.333 |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0    38.5|
16.417 |
| 331.00     331.00| Stream #4 Added to:  Stream #2|    349.7    384.7|
16.333 |
| 331.00     331.00| Zero Out:           Stream #4|    38.5    0.0|
|
| 331.00     331.00| Stream #3 Added to:  Stream #2|    384.7    616.4|
16.333 |
+-----+
+-----+
| 331.00     331.00| Zero Out:           Stream #3|    231.7    0.0|
|
| 331.00     331.00| Flow-Through Basin: Stream #2|    616.4    431.3|
16.500 | 71.80|
| 331.00   12720.50| Stream #2 Added to:  Stream #1| 14180.5   14424.1|
18.333 |
| 12720.50  12720.50| Zero Out:           Stream #2|    431.3    0.0|
|

```

12720.50	127.00	Convex Routing:	Stream #1	14424.1	14400.8
18.417					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	195.5
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	14400.8	14449.4
18.417					
127.00	127.00	Zero Out:	Stream #2	195.5	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	334.6
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	14449.4	14537.6
18.417					
+-----+					
127.00	127.00	Zero Out:	Stream #2	334.6	0.0
127.00	129.00	Convex Routing:	Stream #1	14537.6	14511.8
18.500					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	184.6
16.417					
129.00	129.00	Stream #2 Added to:	Stream #1	14511.8	14581.0
17.583					
129.00	129.00	Zero Out:	Stream #2	184.6	0.0
+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	106.5
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	106.5	18.9
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	18.9	15.3
17.250	3.91				
221.00	222.00	Flow-Through Basin:	Stream #5	87.6	21.6
17.750	12.58				
223.00	222.00	Stream #5 Added to:	Stream #2	15.3	36.8
17.500					
+-----+					
222.00	222.00	Zero Out:	Stream #5	21.6	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	14581.0	14617.8
17.583					
129.00	129.00	Zero Out:	Stream #2	36.8	0.0
129.00	133.00	Convex Routing:	Stream #1	14617.8	14609.0
17.667					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	1157.4
16.917					
+-----+					
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL					
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM					
+-----+					

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV2533CC.DAT ]

Page: 2 of 1

UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00		Flowby Basin Model: Stream #2	1157.4	1014.9
16.917					
132.00	132.00		Flow-Through Basin: Stream #3	142.5	106.7
17.333	19.90				
132.00	132.00		Split Hydrograph: Stream #3	106.7	53.4
17.333					
132.00	132.00		Flow-Through Basin: Stream #3	53.4	12.6
18.667	3.97				
132.00	132.00		Stream #3 Added to: Stream #2	1014.9	1015.0
16.917					
132.00	132.00		Zero Out: Stream #3	12.6	0.0
132.00	132.00		Flow-Through Basin: Stream #4	53.4	10.6
18.750	4.19				
132.00	132.00		Stream #4 Added to: Stream #2	1015.0	1015.1
16.917					
132.00	132.00		Zero Out: Stream #4	10.6	0.0
132.00	13305.00		Convex Routing: Stream #2	1015.1	982.1
17.417					
13305.00	133.00		Convex Routing: Stream #2	982.1	974.1
17.667					
132.00	133.00		Subarea (UH) Added to Stream #3	0.0	512.2
16.667					
133.00	133.00		Stream #3 Added to: Stream #2	974.1	1337.2
17.583					
133.00	133.00		Zero Out: Stream #3	512.2	0.0
133.00	133.00		Stream #2 Added to: Stream #1	14609.0	15941.2
17.583					
133.00	133.00		Zero Out: Stream #2	1337.2	0.0
133.00	133.00		View: Stream #1		15941.2
17.583	13261.27	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL

3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133T \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV NOV 2022 ROKAMOTO \*

FILE NAME: EV2533TC.DAT
TIME/DATE OF STUDY: 10:00 11/01/2022

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.856 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.567
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qenter (CFS), Qpass (CFS). Rows include values for 1 and 2.

Table with 3 columns: Node, Value 1, Value 2. Rows 3, 4, 5.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1 through 9.

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.49	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900

11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION (FT) = 427.51; DOWNSTREAM ELEVATION (FT) = 315.00  
CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION (FT) = 315.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.589 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.409
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

Table with columns: TIME (2) TO, NODE #, PEAK (CFS), PEAK (CFS). Rows include: 13010.00, 16.917, 132.00, 132.00, Subarea (UH) Added to Stream #2, 0.0, 2536.8, 132.00, 132.00, Flowby Basin Model: Stream #2, 2536.8, 1934.6, 132.00, 132.00, Flow-Through Basin: Stream #3, 602.2, 533.1, 132.00, 132.00, Split Hydrograph: Stream #3, 533.1, 266.6, 132.00, 132.00, Flow-Through Basin: Stream #3, 266.6, 22.3, 132.00, 132.00, Stream #3 Added to: Stream #2, 1934.6, 1946.0, 132.00, 132.00, Zero Out: Stream #3, 22.3, 0.0, 132.00, 132.00, Flow-Through Basin: Stream #4, 266.6, 22.3, 132.00, 132.00, Stream #4 Added to: Stream #2, 1946.0, 1955.2, 132.00, 132.00, Zero Out: Stream #4, 22.3, 0.0, 132.00, 13305.00, Convex Routing: Stream #2, 1955.2, 1894.6, 13305.00, 133.00, Convex Routing: Stream #2, 1894.6, 1875.2, 132.00, 133.00, Subarea (UH) Added to Stream #3, 0.0, 1156.9, 133.00, 133.00, Stream #3 Added to: Stream #2, 1875.2, 2299.5, 133.00, 133.00, Zero Out: Stream #3, 1156.9, 0.0, 133.00, 133.00, Stream #2 Added to: Stream #1, 0.0, 2299.5, 133.00, 133.00, Zero Out: Stream #2, 2299.5, 0.0, 133.00, 133.00, View: Stream #1, 2299.5, 1029.54, 3

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL |  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |

+-----+  
-----+

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV2533UC.DAT
TIME/DATE OF STUDY: 12:16 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.625
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.300 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.670
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<



```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.294 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.268
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.249 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.346
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422

```

3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.373 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.507
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.419 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.655  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.369 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.551  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.386 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.628
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.257 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.356
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11  
-----

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<  
-----

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV2533UC.DAT ]

Page: 1 of 1

UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	14552.6
18.167					
119.00	126.00		Convex Routing: Stream #1	14552.6	14476.3
18.250					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	287.7
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	14476.3	14539.1
18.250					
126.00	126.00		Zero Out: Stream #2	287.7	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	43.4
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	14539.1	14547.7
18.250					
126.00	126.00		Zero Out: Stream #2	43.4	0.0
126.00	12720.50		Convex Routing: Stream #1	14547.7	14531.6
18.333					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	369.6
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	245.8
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	40.8
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	369.6	406.7
16.333					
331.00	331.00		Zero Out: Stream #4	40.8	0.0
331.00	331.00		Stream #3 Added to: Stream #2	406.7	652.5
16.333					
331.00	331.00		Zero Out: Stream #3	245.8	0.0
331.00	331.00		Flow-Through Basin: Stream #2	652.5	450.8
16.500	72.54				
331.00	12720.50		Stream #2 Added to: Stream #1	14531.6	14773.8
18.333					
12720.50	12720.50		Zero Out: Stream #2	450.8	0.0

12720.50	127.00		Convex Routing: Stream #1	14773.8	14747.2
18.417					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	209.1
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	14747.2	14794.9
18.417					
127.00	127.00		Zero Out: Stream #2	209.1	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	357.3
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	14794.9	14882.0
18.417					
127.00	127.00		Zero Out: Stream #2	357.3	0.0
127.00	129.00		Convex Routing: Stream #1	14882.0	14854.2
18.500					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	197.5
16.417					
129.00	129.00		Stream #2 Added to: Stream #1	14854.2	14893.5
18.500					
129.00	129.00		Zero Out: Stream #2	197.5	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	112.9
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	112.9	19.3
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	19.3	15.4
17.250	3.92				
221.00	222.00		Flow-Through Basin: Stream #5	93.6	22.0
17.667	12.84				
223.00	222.00		Stream #5 Added to: Stream #2	15.4	37.3
17.500					
222.00	222.00		Zero Out: Stream #5	22.0	0.0
222.00	129.00		Stream #2 Added to: Stream #1	14893.5	14929.4
18.500					
129.00	129.00		Zero Out: Stream #2	37.3	0.0
129.00	133.00		Convex Routing: Stream #1	14929.4	14903.7
18.583					
133.00	133.00		View: Stream #1		14903.7
18.583	12421.83	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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-----+
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV2533UC.DAT ]
Page: 2 of |
-----+-----+-----+-----+
-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |
PEAK (HR) | MODELED (AF) | FOOTNOTES |
-----+-----+-----+-----+
-----+-----+-----+-----+

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END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV2534CC.DAT
TIME/DATE OF STUDY: 16:14 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.625
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.300 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.670
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.294 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.268
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.249 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.346
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397

```

3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.373 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.507
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```



SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.419 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.655  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.369 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.551  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.386 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.628
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.257 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.356
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                 0.00          0.00          0.000
          2                 1.00          0.01          0.310
          3                 2.00          0.83          1.240
          4                 3.00          5.60          2.600
          5                 4.00          16.88         4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.856 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.567  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         1.50    0.01    0.002
      3         2.00    0.02    1.900
      4         4.00    0.03    16.100
      5         4.30    0.05    18.200
      6         5.00   314.00   23.200
      7         6.00  1306.00  30.300
      8         7.00  2847.00  39.100
      9         8.00  4942.00  47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         0.99    2.90    0.900
      3         1.99   11.38    2.900
      4         3.99   19.63   10.300
      5         5.99   25.19   20.700
      6         7.99   29.71   31.700
      7         9.99   33.62   43.500
      8        10.99   35.49   49.700
      9        11.99  313.49  56.400
     10        12.99  894.27  63.100
     11        13.99 1748.55  69.900
     12        15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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,

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.647 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.409  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.366 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.462  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.350 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.463  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV2534CC.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	13911.4
18.167					
119.00	126.00		Convex Routing: Stream #1	13911.4	13845.7
18.250					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	253.4
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	13845.7	13910.7
18.250					
126.00	126.00		Zero Out: Stream #2	253.4	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	38.2
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	13910.7	13919.6
18.250					
126.00	126.00		Zero Out: Stream #2	38.2	0.0
126.00	12720.50		Convex Routing: Stream #1	13919.6	13904.9
18.333					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	335.9
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	221.6
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	36.8
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	335.9	369.5
16.333					
331.00	331.00		Zero Out: Stream #4	36.8	0.0
331.00	331.00		Stream #3 Added to: Stream #2	369.5	591.1
16.333					
331.00	331.00		Zero Out: Stream #3	221.6	0.0
331.00	331.00		Flow-Through Basin: Stream #2	591.1	417.0
16.500	71.26				
331.00	12720.50		Stream #2 Added to: Stream #1	13904.9	14149.8
18.333					
12720.50	12720.50		Zero Out: Stream #2	417.0	0.0

12720.50	127.00		Convex Routing: Stream #1	14149.8	14128.7
18.417					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	185.7
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	14128.7	14177.9
18.417					
127.00	127.00		Zero Out: Stream #2	185.7	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	319.5
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	14177.9	14285.1
17.500					
127.00	127.00		Zero Out: Stream #2	319.5	0.0
127.00	129.00		Convex Routing: Stream #1	14285.1	14282.5
17.583					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	175.5
16.417					
129.00	129.00		Stream #2 Added to: Stream #1	14282.5	14353.9
17.583					
129.00	129.00		Zero Out: Stream #2	175.5	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	101.9
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	101.9	18.6
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	18.6	15.2
17.333	3.90				
221.00	222.00		Flow-Through Basin: Stream #5	83.3	21.3
17.833	12.39				
223.00	222.00		Stream #5 Added to: Stream #2	15.2	36.4
17.583					
222.00	222.00		Zero Out: Stream #5	21.3	0.0
222.00	129.00		Stream #2 Added to: Stream #1	14353.9	14390.2
17.583					
129.00	129.00		Zero Out: Stream #2	36.4	0.0
129.00	133.00		Convex Routing: Stream #1	14390.2	14383.3
17.583					
13010.00	132.00		Subarea (UH) Added to Stream #2	0.0	1114.8
16.917					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV2534CC.DAT ]
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+-----+
+-----+
|UPSTREAM DOWNSTREAM|                                     |UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS |PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1114.8    980.5|
16.917 | |                                     |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 134.3     99.3|
17.417 | 19.79|                                     |
| 132.00    132.00| Split Hydrograph:   Stream #3| 99.3      49.7|
17.417 | |                                     |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 49.7      12.3|
18.667 | 3.71|                                     |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 980.5     980.5|
16.917 | |                                     |
+-----+
+-----+
| 132.00    132.00| Zero Out:           Stream #3| 12.3      0.0|
| |                                     |
| 132.00    132.00| Flow-Through Basin:  Stream #4| 49.7      10.2|
18.750 | 3.93|                                     |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 980.5     980.5|
16.917 | |                                     |
| 132.00    132.00| Zero Out:           Stream #4| 10.2      0.0|
| |                                     |
| 132.00    13305.00| Convex Routing:     Stream #2| 980.5     949.7|
17.417 | |                                     |
+-----+
+-----+
| 13305.00   133.00| Convex Routing:     Stream #2| 949.7     942.1|
17.667 | |                                     |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0       494.4|
16.667 | |                                     |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 942.1     1301.3|
17.583 | |                                     |
| 133.00    133.00| Zero Out:           Stream #3| 494.4     0.0|
| |                                     |
| 133.00    133.00| Stream #2 Added to:  Stream #1| 14383.3   15684.5|
17.583 | |                                     |
+-----+
+-----+
| 133.00    133.00| Zero Out:           Stream #2| 1301.3    0.0|
| |                                     |
| 133.00    134.00| Convex Routing:     Stream #1| 15684.5   15670.6|
17.750 | |                                     |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0       577.2|
16.417 | |                                     |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 15670.6   15924.0|
17.750 | |                                     |

```



	134.00	134.00	Zero Out:	Stream #2	577.2	0.0	
+-----+							
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	887.8	
17.417							
	134.00	134.00	Stream #2 Added to:	Stream #1	15924.0	16767.7	
17.750							
	134.00	134.00	Zero Out:	Stream #2	887.8	0.0	
	134.00	134.00	View:	Stream #1		16767.7	
17.750		14069.75	3				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV2534UC.DAT
TIME/DATE OF STUDY: 16:15 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.625
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.300 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.670
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.294 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.268
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.249 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.346
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405

```

3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.373 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.507
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.419 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.655  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.369 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.551  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.386 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.628
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.257 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.356
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.856 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.567  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00        3013.00
      4              6819.00        4013.00
      5              8100.00        4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              1.50      0.01      0.002
      3              2.00      0.02      1.900
      4              4.00      0.03      16.100
      5              4.30      0.05      18.200
      6              5.00      314.00    23.200
      7              6.00      1306.00   30.300
      8              7.00      2847.00   39.100
      9              8.00      4942.00   47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              0.99      2.90      0.900
      3              1.99      11.38     2.900
      4              3.99      19.63     10.300
      5              5.99      25.19     20.700
      6              7.99      29.71     31.700
      7              9.99      33.62     43.500
      8              10.99     35.49     49.700
      9              11.99     313.49    56.400
      10             12.99     894.27    63.100
      11             13.99     1748.55   69.900
      12             15.99     4306.91   84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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,

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.647 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.409  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2



>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00 UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00 CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.366 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.462 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95 3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405 3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

Table with columns: TIME(2) TO, NODE #, UPSTREAM, DOWNSTREAM, MAX. STORAGE, HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Includes summary header: \* AES FLOODSCx PROGRAM RESULTS SUMMARY \* and various data rows for stream routing.

12720.50	127.00	Convex Routing:	Stream #1	14340.1	14317.1
18.417					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	192.2
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	14317.1	14365.8
18.417					
127.00	127.00	Zero Out:	Stream #2	192.2	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	329.4
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	14365.8	14454.4
18.417					
+-----+					
127.00	127.00	Zero Out:	Stream #2	329.4	0.0
127.00	129.00	Convex Routing:	Stream #1	14454.4	14442.2
17.583					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	181.4
16.417					
129.00	129.00	Stream #2 Added to:	Stream #1	14442.2	14513.4
17.583					
129.00	129.00	Zero Out:	Stream #2	181.4	0.0
+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	104.8
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	104.8	18.8
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	18.8	15.2
17.250	3.91				
221.00	222.00	Flow-Through Basin:	Stream #5	86.1	21.5
17.750	12.52				
223.00	222.00	Stream #5 Added to:	Stream #2	15.2	36.6
17.500					
+-----+					
222.00	222.00	Zero Out:	Stream #5	21.5	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	14513.4	14550.1
17.583					
129.00	129.00	Zero Out:	Stream #2	36.6	0.0
129.00	133.00	Convex Routing:	Stream #1	14550.1	14541.1
17.667					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	1143.1
16.917					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 |  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
 |

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV2534UC.DAT ]

Page: 2 of

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1143.1	1003.4
132.00	132.00	139.7	104.2
132.00	132.00	104.2	52.1
132.00	132.00	52.1	12.5
132.00	132.00	1003.4	1003.5

132.00	132.00	Flowby Basin Model:	Stream #2	1143.1	1003.4
132.00	132.00	Flow-Through Basin:	Stream #3	139.7	104.2
132.00	132.00	Split Hydrograph:	Stream #3	104.2	52.1
132.00	132.00	Flow-Through Basin:	Stream #3	52.1	12.5
132.00	132.00	Stream #3 Added to:	Stream #2	1003.4	1003.5

132.00	132.00	Zero Out:	Stream #3	12.5	0.0
132.00	132.00	Flow-Through Basin:	Stream #4	52.1	10.5
132.00	132.00	Stream #4 Added to:	Stream #2	1003.5	1003.5
132.00	132.00	Zero Out:	Stream #4	10.5	0.0
132.00	13305.00	Convex Routing:	Stream #2	1003.5	971.4

13305.00	133.00	Convex Routing:	Stream #2	971.4	963.6
132.00	133.00	Subarea (UH) Added to	Stream #3	0.0	506.3
133.00	133.00	Stream #3 Added to:	Stream #2	963.6	1325.7
133.00	133.00	Zero Out:	Stream #3	506.3	0.0
133.00	133.00	Stream #2 Added to:	Stream #1	14541.1	15864.2

133.00	133.00	Zero Out:	Stream #2	1325.7	0.0
133.00	134.00	Convex Routing:	Stream #1	15864.2	15849.9
133.00	134.00	Subarea (UH) Added to	Stream #2	0.0	593.8
134.00	134.00	Stream #2 Added to:	Stream #1	15849.9	16101.4

134.00	134.00	Zero Out:	Stream #2	593.8	0.0
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134.00	134.00	View:	Stream #1	16101.4
--------	--------	-------	-----------	---------

17.750 | 13512.00 | 3 |

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 50-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV5033CC.DAT
TIME/DATE OF STUDY: 11:04 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.043 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.400
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.290 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.592
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.79; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.252
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.244 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.326
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408

```

3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.475
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.411 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.623  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.363 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.517  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.378 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.601
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.255 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.337
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                  0.00          0.00          0.000
          2                  1.00          0.01          0.310
          3                  2.00          0.83          1.240
          4                  3.00          5.60          2.600
          5                  4.00          16.88         4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.821 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.538  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936



```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         1.50    0.01    0.002
      3         2.00    0.02    1.900
      4         4.00    0.03    16.100
      5         4.30    0.05    18.200
      6         5.00   314.00   23.200
      7         6.00  1306.00  30.300
      8         7.00  2847.00  39.100
      9         8.00  4942.00  47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         0.99    2.90    0.900
      3         1.99   11.38    2.900
      4         3.99   19.63   10.300
      5         5.99   25.19   20.700
      6         7.99   29.71   31.700
      7         9.99   33.62   43.500
      8        10.99   35.49   49.700
      9        11.99  313.49  56.400
     10        12.99  894.27  63.100
     11        13.99 1748.55  69.900
     12        15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.625 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.383  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408  
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV5033CC.DAT ]
Page: 1 of |
+-----+
+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
+-----+
| 10100.00   119.00| Subarea (UH) Added to Stream #1|      0.0   16954.3|
18.083 |
| 119.00     126.00| Convex Routing:      Stream #1| 16954.3   16866.8|
18.167 |
| 40400.00   126.00| Subarea (UH) Added to Stream #2|      0.0    313.3|
16.333 |
| 126.00     126.00| Stream #2 Added to:  Stream #1| 16866.8   16952.3|
18.167 |
| 126.00     126.00| Zero Out:           Stream #2|    313.3    0.0|
|
+-----+
+-----+
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0    47.7|
16.333 |
| 126.00     126.00| Stream #2 Added to:  Stream #1| 16952.3   16964.2|
18.167 |
| 126.00     126.00| Zero Out:           Stream #2|    47.7    0.0|
|
| 126.00   12720.50| Convex Routing:      Stream #1| 16964.2   16948.0|
18.250 |
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0    396.6|
16.333 |
+-----+
+-----+
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0    261.3|
16.333 |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0    44.9|
16.417 |
| 331.00     331.00| Stream #4 Added to:  Stream #2|    396.6   437.8|
16.333 |
| 331.00     331.00| Zero Out:           Stream #4|    44.9    0.0|
|
| 331.00     331.00| Stream #3 Added to:  Stream #2|    437.8   699.1|
16.333 |
+-----+
+-----+
| 331.00     331.00| Zero Out:           Stream #3|    261.3    0.0|
|
| 331.00     331.00| Flow-Through Basin:  Stream #2|    699.1   493.3|
16.500 | 74.11|
| 331.00   12720.50| Stream #2 Added to:  Stream #1| 16948.0   17228.0|
18.250 |
| 12720.50  12720.50| Zero Out:           Stream #2|    493.3    0.0|
|

```

12720.50	127.00	Convex Routing:	Stream #1	17228.0	17189.8
18.333					
+-----+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	229.0
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	17189.8	17254.8
18.333					
127.00	127.00	Zero Out:	Stream #2	229.0	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	394.1
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	17254.8	17400.0
17.417					
+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	394.1	0.0
127.00	129.00	Convex Routing:	Stream #1	17400.0	17386.1
17.500					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	218.8
16.417					
129.00	129.00	Stream #2 Added to:	Stream #1	17386.1	17477.1
17.500					
129.00	129.00	Zero Out:	Stream #2	218.8	0.0
+-----+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	120.4
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	120.4	19.8
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	19.8	15.9
17.250	4.00				
221.00	222.00	Flow-Through Basin:	Stream #5	100.6	27.3
17.750	15.20				
223.00	222.00	Stream #5 Added to:	Stream #2	15.9	43.1
17.583					
+-----+-----+					
222.00	222.00	Zero Out:	Stream #5	27.3	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	17477.1	17520.1
17.500					
129.00	129.00	Zero Out:	Stream #2	43.1	0.0
129.00	133.00	Convex Routing:	Stream #1	17520.1	17509.0
17.583					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	1348.6
16.833					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
 |

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV5033CC.DAT ]

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UPSTREAM TIME (2) TO   NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE   NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS   FOOTNOTES	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00 16.833	132.00	Flowby Basin Model: Stream #2	1348.6	1169.5
132.00 17.083	132.00 20.89	Flow-Through Basin: Stream #3	179.0	168.7
132.00 17.083	132.00	Split Hydrograph: Stream #3	168.7	84.3
132.00 18.750	132.00 9.09	Flow-Through Basin: Stream #3	84.3	18.3
132.00 16.833	132.00	Stream #3 Added to: Stream #2	1169.5	1180.0
132.00	132.00	Zero Out: Stream #3	18.3	0.0
132.00 18.750	132.00 9.19	Flow-Through Basin: Stream #4	84.3	18.5
132.00 16.833	132.00	Stream #4 Added to: Stream #2	1180.0	1188.1
132.00	132.00	Zero Out: Stream #4	18.5	0.0
132.00 17.333	13305.00	Convex Routing: Stream #2	1188.1	1173.9
13305.00 17.583	133.00	Convex Routing: Stream #2	1173.9	1161.3
132.00 16.667	133.00	Subarea (UH) Added to Stream #3	0.0	600.8
133.00 17.500	133.00	Stream #3 Added to: Stream #2	1161.3	1597.3
133.00	133.00	Zero Out: Stream #3	600.8	0.0
133.00 17.500	133.00	Stream #2 Added to: Stream #1	17509.0	19101.5
133.00	133.00	Zero Out: Stream #2	1597.3	0.0
133.00 17.500	133.00 15839.94	View: Stream #1		19101.5

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL

3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133T \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 50-YR EV NOV 2022 ROKAMOTO \*

FILE NAME: EV5033TC.DAT
TIME/DATE OF STUDY: 08:57 11/01/2022

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.821 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.538
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qenter (CFS), Qpass (CFS). Rows include values for 1 and 2.

Table with 3 columns: Node, Value 1, Value 2. Rows 3, 4, 5.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-9.

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.49	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900

11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION (FT) = 427.51; DOWNSTREAM ELEVATION (FT) = 315.00  
CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION (FT) = 315.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.625 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.383
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.71; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.744; 30-MINUTE = 0.744; 1-HOUR = 0.744
3-HOUR = 0.959; 6-HOUR = 0.978; 24-HOUR = 0.987

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

Table with columns: TIME (2) TO, NODE #, MODELED (AF), HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Includes summary header: \* AES FLOODSCx PROGRAM RESULTS SUMMARY \* and various process entries like 'Subarea (UH) Added to Stream #2', 'Flowby Basin Model', etc.



|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL |  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |

+-----+  
-----+

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 133U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 50-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV5033UC.DAT
TIME/DATE OF STUDY: 11:05 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.043 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.400
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.290 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.592
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.79; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.252
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.244 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.326
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422

```

3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.475
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.411 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.623  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.363 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.517  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422  
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.378 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.601
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.255 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.337
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                  -                  -
          1                  25.00         13.59
          2                  75.00         16.84
          3                  100.00        18.46
          4                  250.00        28.22
          5                  550.00        47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00            0.00            0.000
          2                  1.00            0.01            0.310
          3                  2.00            0.83            1.240
          4                  3.00            5.60            2.600
          5                  4.00            16.88           4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11  
-----

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<  
-----

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV5033UC.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	17381.4
18.083					
119.00	126.00		Convex Routing: Stream #1	17381.4	17288.2
18.167					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	335.9
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	17288.2	17372.0
18.167					
126.00	126.00		Zero Out: Stream #2	335.9	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	51.3
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	17372.0	17383.6
18.167					
126.00	126.00		Zero Out: Stream #2	51.3	0.0
126.00	12720.50		Convex Routing: Stream #1	17383.6	17366.8
18.250					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	419.3
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	277.0
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	47.8
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	419.3	463.1
16.333					
331.00	331.00		Zero Out: Stream #4	47.8	0.0
331.00	331.00		Stream #3 Added to: Stream #2	463.1	740.1
16.333					
331.00	331.00		Zero Out: Stream #3	277.0	0.0
331.00	331.00		Flow-Through Basin: Stream #2	740.1	515.4
16.500	74.95				
331.00	12720.50		Stream #2 Added to: Stream #1	17366.8	17645.1
18.250					
12720.50	12720.50		Zero Out: Stream #2	515.4	0.0

12720.50	127.00		Convex Routing: Stream #1	17645.1	17601.6
18.333					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	244.5
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	17601.6	17665.4
18.333					
127.00	127.00		Zero Out: Stream #2	244.5	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	420.4
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	17665.4	17782.4
18.333					
127.00	127.00		Zero Out: Stream #2	420.4	0.0
127.00	129.00		Convex Routing: Stream #1	17782.4	17756.7
18.417					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	234.0
16.417					
129.00	129.00		Stream #2 Added to: Stream #1	17756.7	17824.7
17.500					
129.00	129.00		Zero Out: Stream #2	234.0	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	127.8
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	127.8	20.3
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	20.3	16.1
17.250	4.02				
221.00	222.00		Flow-Through Basin: Stream #5	107.6	28.8
17.583	15.46				
223.00	222.00		Stream #5 Added to: Stream #2	16.1	44.7
17.500					
222.00	222.00		Zero Out: Stream #5	28.8	0.0
222.00	129.00		Stream #2 Added to: Stream #1	17824.7	17869.4
17.500					
129.00	129.00		Zero Out: Stream #2	44.7	0.0
129.00	133.00		Convex Routing: Stream #1	17869.4	17858.6
17.583					
133.00	133.00		View: Stream #1		17858.6
17.583	14836.11	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV5033UC.DAT ]
Page: 2 of |
-----+-----+-----+-----+
-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |
PEAK (HR) | MODELED (AF) | FOOTNOTES |
-----+-----+-----+-----+
-----+-----+-----+-----+

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END OF FLOODSCx ROUTING ANALYSIS



\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2010 Advanced Engineering Software (aes)
Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134C \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 50-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV5034CC.DAT
TIME/DATE OF STUDY: 16:05 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.043 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.400
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.290 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.592
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.79; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.252
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.244 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.326
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397

```

3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.475
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.411 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.623  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.363 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.517  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.378 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.601
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.255 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.337
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                 0.00          0.00          0.000
          2                 1.00          0.01          0.310
          3                 2.00          0.83          1.240
          4                 3.00          5.60          2.600
          5                 4.00          16.88         4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.821 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.538  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              1.50      0.01      0.002
      3              2.00      0.02      1.900
      4              4.00      0.03      16.100
      5              4.30      0.05      18.200
      6              5.00      314.00    23.200
      7              6.00      1306.00   30.300
      8              7.00      2847.00   39.100
      9              8.00      4942.00   47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              0.99      2.90      0.900
      3              1.99      11.38     2.900
      4              3.99      19.63     10.300
      5              5.99      25.19     20.700
      6              7.99      29.71     31.700
      7              9.99      33.62     43.500
      8              10.99     35.49     49.700
      9              11.99     313.49    56.400
      10             12.99     894.27    63.100
      11             13.99     1748.55   69.900
      12             15.99     4306.91   84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.625 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.383  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397  
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.294 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.431
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.294; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.741; 6-HOUR = 0.887; 24-HOUR = 0.933

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<



\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV5034CC.DAT ]

Page: 1 of 1

UPSTREAM TIME (2) TO   NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE   NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00	Subarea (UH) Added to Stream #1	0.0	16619.9
18.083				
119.00	126.00	Convex Routing: Stream #1	16619.9	16535.7
18.167				
40400.00	126.00	Subarea (UH) Added to Stream #2	0.0	297.3
16.333				
126.00	126.00	Stream #2 Added to: Stream #1	16535.7	16622.7
18.167				
126.00	126.00	Zero Out: Stream #2	297.3	0.0

600.00	126.00	Subarea (UH) Added to Stream #2	0.0	45.2
16.333				
126.00	126.00	Stream #2 Added to: Stream #1	16622.7	16634.8
18.167				
126.00	126.00	Zero Out: Stream #2	45.2	0.0
126.00	12720.50	Convex Routing: Stream #1	16634.8	16618.6
18.250				
320.00	331.00	Subarea (UH) Added to Stream #2	0.0	381.1
16.333				

400.00	331.00	Subarea (UH) Added to Stream #3	0.0	250.2
16.333				
390.00	331.00	Subarea (UH) Added to Stream #4	0.0	43.0
16.417				
331.00	331.00	Stream #4 Added to: Stream #2	381.1	420.7
16.333				
331.00	331.00	Zero Out: Stream #4	43.0	0.0
331.00	331.00	Stream #3 Added to: Stream #2	420.7	670.9
16.333				

331.00	331.00	Zero Out: Stream #3	250.2	0.0
331.00	331.00	Flow-Through Basin: Stream #2	670.9	477.3
16.500	73.50			
331.00	12720.50	Stream #2 Added to: Stream #1	16618.6	16900.3
18.250				
12720.50	12720.50	Zero Out: Stream #2	477.3	0.0

12720.50	127.00	Convex Routing: Stream #1	16900.3	16865.8
18.333				
12710.00	127.00	Subarea (UH) Added to Stream #2	0.0	218.0
16.500				
127.00	127.00	Stream #2 Added to: Stream #1	16865.8	16931.7
18.333				
127.00	127.00	Zero Out: Stream #2	218.0	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2	0.0	375.4
16.417				
127.00	127.00	Stream #2 Added to: Stream #1	16931.7	17117.7
17.417				

127.00	127.00	Zero Out: Stream #2	375.4	0.0
127.00	129.00	Convex Routing: Stream #1	17117.7	17110.3
17.500				
50300.00	129.00	Subarea (UH) Added to Stream #2	0.0	208.4
16.417				
129.00	129.00	Stream #2 Added to: Stream #1	17110.3	17201.4
17.500				
129.00	129.00	Zero Out: Stream #2	208.4	0.0

210.00	221.00	Subarea (UH) Added to Stream #2	0.0	115.2
16.333				
221.00	221.00	Flowby Basin Model: Stream #2	115.2	19.5
16.333				
221.00	223.00	Flow-Through Basin: Stream #2	19.5	15.8
17.250	3.99			
221.00	222.00	Flow-Through Basin: Stream #5	95.8	26.3
17.917	15.02			
223.00	222.00	Stream #5 Added to: Stream #2	15.8	41.9
17.750				

222.00	222.00	Zero Out: Stream #5	26.3	0.0
222.00	129.00	Stream #2 Added to: Stream #1	17201.4	17243.1
17.500				
129.00	129.00	Zero Out: Stream #2	41.9	0.0
129.00	133.00	Convex Routing: Stream #1	17243.1	17236.2
17.500				
13010.00	132.00	Subarea (UH) Added to Stream #2	0.0	1298.3
16.833				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV5034CC.DAT ]
Page: 2 of |
+-----+
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|UPSTREAM DOWNSTREAM|                                     |UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS |PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1298.3    1128.9|
16.833 |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 169.4     159.9|
17.083 | 20.75|
| 132.00    132.00| Split Hydrograph:   Stream #3| 159.9     79.9|
17.083 |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 79.9      17.9|
18.833 | 8.71|
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1128.9    1138.8|
16.833 |
+-----+
+-----+
| 132.00    132.00| Zero Out:           Stream #3| 17.9      0.0|
|
| 132.00    132.00| Flow-Through Basin:  Stream #4| 79.9      18.3|
18.833 | 8.81|
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1138.8    1146.6|
16.833 |
| 132.00    132.00| Zero Out:           Stream #4| 18.3      0.0|
|
| 132.00    13305.00| Convex Routing:     Stream #2| 1146.6    1133.8|
17.333 |
+-----+
+-----+
| 13305.00   133.00| Convex Routing:     Stream #2| 1133.8    1121.7|
17.583 |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0       579.5|
16.667 |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 1121.7    1551.6|
17.500 |
| 133.00    133.00| Zero Out:           Stream #3| 579.5     0.0|
|
| 133.00    133.00| Stream #2 Added to:  Stream #1| 17236.2   18787.7|
17.500 |
+-----+
+-----+
| 133.00    133.00| Zero Out:           Stream #2| 1551.6     0.0|
|
| 133.00    134.00| Convex Routing:     Stream #1| 18787.7   18773.4|
17.667 |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0       670.2|
16.417 |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 18773.4   19083.6|
17.667 |

```

	134.00	134.00	Zero Out:	Stream #2	670.2	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	1050.0
17.333						
	134.00	134.00	Stream #2 Added to:	Stream #1	19083.6	20098.0
17.583						
	134.00	134.00	Zero Out:	Stream #2	1050.0	0.0
	134.00	134.00	View:	Stream #1		20098.0
17.583		16808.90	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134U \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 50-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV5034UC.DAT
TIME/DATE OF STUDY: 16:05 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.043 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.400
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.290 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.592
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.79; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.252
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.244 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.326
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405

```

3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.475
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.411 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.623  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.363 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.517  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.378 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.601
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.255 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.337
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.821 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.538  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936



```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              1.50      0.01      0.002
      3              2.00      0.02      1.900
      4              4.00      0.03      16.100
      5              4.30      0.05      18.200
      6              5.00      314.00    23.200
      7              6.00      1306.00   30.300
      8              7.00      2847.00   39.100
      9              8.00      4942.00   47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              0.99      2.90      0.900
      3              1.99      11.38     2.900
      4              3.99      19.63     10.300
      5              5.99      25.19     20.700
      6              7.99      29.71     31.700
      7              9.99      33.62     43.500
      8              10.99     35.49     49.700
      9              11.99     313.49    56.400
      10             12.99     894.27    63.100
      11             13.99     1748.55   69.900
      12             15.99     4306.91   84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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,

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.625 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.383  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405  
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

Table with columns: TIME(2) TO, NODE #, UPSTREAM, DOWNSTREAM, MAX. STORAGE, HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Includes summary header: \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

12720.50	127.00	Convex Routing:	Stream #1	17127.4	17089.8
18.333					
+-----+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	225.2
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	17089.8	17155.1
18.333					
127.00	127.00	Zero Out:	Stream #2	225.2	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	387.6
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	17155.1	17316.1
17.417					
+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	387.6	0.0
127.00	129.00	Convex Routing:	Stream #1	17316.1	17304.0
17.500					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	215.1
16.417					
129.00	129.00	Stream #2 Added to:	Stream #1	17304.0	17395.0
17.500					
129.00	129.00	Zero Out:	Stream #2	215.1	0.0
+-----+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	118.6
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	118.6	19.7
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	19.7	15.9
17.250	4.00				
221.00	222.00	Flow-Through Basin:	Stream #5	98.9	27.0
17.750	15.14				
223.00	222.00	Stream #5 Added to:	Stream #2	15.9	42.7
17.667					
+-----+-----+					
222.00	222.00	Zero Out:	Stream #5	27.0	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	17395.0	17437.6
17.500					
129.00	129.00	Zero Out:	Stream #2	42.7	0.0
129.00	133.00	Convex Routing:	Stream #1	17437.6	17426.2
17.583					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	1331.1
16.833					

[Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL

| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV5034UC.DAT ]

Page: 2 of

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1331.1	1155.4
132.00	132.00	175.7	165.7
132.00	132.00	165.7	82.8
132.00	132.00	82.8	18.1
132.00	132.00	1155.4	1165.6

132.00	132.00	18.1	0.0
132.00	132.00	82.8	18.5
132.00	132.00	1165.6	1173.6
132.00	132.00	18.5	0.0
132.00	13305.00	1173.6	1160.3

13305.00	133.00	1160.3	1147.9
132.00	133.00	0.0	593.4
133.00	133.00	1147.9	1582.1
133.00	133.00	593.4	0.0
133.00	133.00	17426.2	19006.5

133.00	133.00	1582.1	0.0
133.00	134.00	19006.5	18992.3
133.00	134.00	0.0	690.2
134.00	134.00	18992.3	19300.6

133.00	133.00	1582.1	0.0
133.00	134.00	19006.5	18992.3
133.00	134.00	0.0	690.2
134.00	134.00	18992.3	19300.6

134.00	134.00	Zero Out:	Stream #2	690.2	0.0
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134.00	134.00	View:	Stream #1	19300.6
--------	--------	-------	-----------	---------

17.667	16132.56	3	
--------	----------	---	--

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 126 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 5-YR EV DEC 2022 ROKAMOTO \*

FILE NAME: EV05126C.DAT
TIME/DATE OF STUDY: 07:29 12/13/2022

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 3.308 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.845
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.23; 30-MINUTE = 0.44; 1-HOUR = 0.62
3-HOUR = 1.15; 6-HOUR = 1.71; 24-HOUR = 3.02
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.493; LOW LOSS FRACTION = 0.948
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.41; 1-HOUR = 0.55
3-HOUR = 0.92; 6-HOUR = 1.27; 24-HOUR = 2.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.485; LOW LOSS FRACTION = 0.933
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.41; 1-HOUR = 0.55
3-HOUR = 0.92; 6-HOUR = 1.27; 24-HOUR = 2.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```
*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
```

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*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 11
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====
```

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-----+
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV05126F.DAT ]
Page: 1 of |
-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |
PEAK (HR) | MODELED (AF) | FOOTNOTES |
-----+-----+
| 10100.00 119.00| Subarea (UH) Added to Stream #1| 0.0 2391.4|
19.333 | | |
| 119.00 126.00| Convex Routing: Stream #1| 2391.4 2341.9|
19.417 | | |
| 40400.00 126.00| Subarea (UH) Added to Stream #2| 0.0 49.2|
16.417 | | |
| 126.00 126.00| Stream #2 Added to: Stream #1| 2341.9 2344.4|
19.417 | | |
| 126.00 126.00| Zero Out: Stream #2| 49.2 0.0|
| | |
-----+-----+
| 600.00 126.00| Subarea (UH) Added to Stream #2| 0.0 8.4|
16.417 | | |
| 126.00 126.00| Stream #2 Added to: Stream #1| 2344.4 2344.9|
19.417 | | |
| 126.00 126.00| Zero Out: Stream #2| 8.4 0.0|
| | |
| 126.00 126.00| View: Stream #1| 2344.9|
19.417 | 1933.09| 3 |
-----+-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL |
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM |
-----+-----+
```

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 127 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 5-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV05127C.DAT
TIME/DATE OF STUDY: 14:42 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 3.308 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.845
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.24; 30-MINUTE = 0.45; 1-HOUR = 0.63
3-HOUR = 1.18; 6-HOUR = 1.75; 24-HOUR = 3.09
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.493; LOW LOSS FRACTION = 0.948
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.485; LOW LOSS FRACTION = 0.933
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<



```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.330 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.167; LOW LOSS FRACTION = 0.352
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.447
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424

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3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.448 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.472; LOW LOSS FRACTION = 0.863
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

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SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.370 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.489; LOW LOSS FRACTION = 0.949  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56  
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.447 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.491; LOW LOSS FRACTION = 0.915  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56  
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

* AES FLOODSCx PROGRAM RESULTS SUMMARY *					
INPUT FILENAME: [EV05127C.DAT ]					
Page: 1 of					
UPSTREAM	DOWNSTREAM		UPSTREAM	DOWNSTREAM	
TIME (2) TO	MAX. STORAGE		PEAK (CFS)	PEAK (CFS)	
NODE #	NODE #	HYDROLOGIC/HYDRAULIC PROCESS			
PEAK (HR)	MODELED (AF)	FOOTNOTES			
10100.00	119.00	Subarea (UH) Added to Stream #1	0.0	2436.1	
19.333					
119.00	126.00	Convex Routing: Stream #1	2436.1	2384.1	
19.417					
40400.00	126.00	Subarea (UH) Added to Stream #2	0.0	45.4	
16.417					
126.00	126.00	Stream #2 Added to: Stream #1	2384.1	2386.7	
19.417					
126.00	126.00	Zero Out: Stream #2	45.4	0.0	
600.00	126.00	Subarea (UH) Added to Stream #2	0.0	7.8	
16.417					
126.00	126.00	Stream #2 Added to: Stream #1	2386.7	2387.2	
19.417					
126.00	126.00	Zero Out: Stream #2	7.8	0.0	
126.00	12720.50	Convex Routing: Stream #1	2387.2	2386.2	
19.583					
320.00	331.00	Subarea (UH) Added to Stream #2	0.0	169.1	
16.417					
400.00	331.00	Subarea (UH) Added to Stream #3	0.0	102.8	
16.333					
390.00	331.00	Subarea (UH) Added to Stream #4	0.0	7.6	
16.500					
331.00	331.00	Stream #4 Added to: Stream #2	169.1	176.0	
16.417					
331.00	331.00	Zero Out: Stream #4	7.6	0.0	
331.00	331.00	Stream #3 Added to: Stream #2	176.0	274.4	
16.333					
331.00	331.00	Zero Out: Stream #3	102.8	0.0	
331.00	331.00	Flow-Through Basin: Stream #2	274.4	189.5	
16.667	60.67				
331.00	12720.50	Stream #2 Added to: Stream #1	2386.2	2449.8	
19.500					
12720.50	12720.50	Zero Out: Stream #2	189.5	0.0	

12720.50	127.00	Convex Routing:	Stream #1	2449.8	2449.1
19.583					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	37.1
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	2449.1	2451.4
19.583					
127.00	127.00	Zero Out:	Stream #2	37.1	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	55.6
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	2451.4	2456.9
19.583					
+-----+					
127.00	127.00	Zero Out:	Stream #2	55.6	0.0
127.00	127.00	View:	Stream #1		2456.9
19.583	2085.96	3			
+-----+					
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL					
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM					
+-----+					

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 137 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 5-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV05137C.DAT
TIME/DATE OF STUDY: 16:26 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 3.308 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.845
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.24; 30-MINUTE = 0.46; 1-HOUR = 0.64
3-HOUR = 1.19; 6-HOUR = 1.77; 24-HOUR = 3.13
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.493; LOW LOSS FRACTION = 0.948
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.485; LOW LOSS FRACTION = 0.933
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.330 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.167; LOW LOSS FRACTION = 0.352
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.447
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394

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3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.448 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.472; LOW LOSS FRACTION = 0.863
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

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SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.370 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.489; LOW LOSS FRACTION = 0.949  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.447 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.491; LOW LOSS FRACTION = 0.915  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.444 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.470; LOW LOSS FRACTION = 0.908
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.286 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.213; LOW LOSS FRACTION = 0.446
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```



6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.986 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.789  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR           Qcenter           Qpass
      NUMBER              (CFS)             (CFS)
      -                   -                -
      1                   413.00          413.00
      2                   1897.00         1613.00
      3                   4682.00         3013.00
      4                   6819.00         4013.00
      5                   8100.00         4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

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```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01      CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05      MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.699 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.375; LOW LOSS FRACTION = 0.691  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.390 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.409; LOW LOSS FRACTION = 0.762  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 2.179 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.473; LOW LOSS FRACTION = 0.843  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00  
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.439 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.395; LOW LOSS FRACTION = 0.714  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7  
-----

-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 11  
-----

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<<  
=====

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV05137C.DAT ]

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UPSTREAM TIME (2) PEAK (HR)	DOWNSTREAM NODE # MODELED (AF)	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)	PROCESS
10100.00	119.00	0.0	2253.5	Subarea (UH) Added to Stream #1
19.333				
119.00	126.00	2253.5	2224.6	Convex Routing: Stream #1
19.250				
40400.00	126.00	0.0	36.0	Subarea (UH) Added to Stream #2
16.417				
126.00	126.00	2224.6	2227.3	Stream #2 Added to: Stream #1
19.250				
126.00	126.00	36.0	0.0	Zero Out: Stream #2
600.00	126.00	0.0	6.3	Subarea (UH) Added to Stream #2
16.417				
126.00	126.00	2227.3	2227.8	Stream #2 Added to: Stream #1
19.250				
126.00	126.00	6.3	0.0	Zero Out: Stream #2
126.00	12720.50	2227.8	2221.6	Convex Routing: Stream #1
19.500				
320.00	331.00	0.0	155.1	Subarea (UH) Added to Stream #2
16.417				
400.00	331.00	0.0	93.2	Subarea (UH) Added to Stream #3
16.333				
390.00	331.00	0.0	6.5	Subarea (UH) Added to Stream #4
16.500				
331.00	331.00	155.1	161.0	Stream #4 Added to: Stream #2
16.417				
331.00	331.00	6.5	0.0	Zero Out: Stream #4
331.00	331.00	161.0	249.5	Stream #3 Added to: Stream #2
16.333				
331.00	331.00	93.2	0.0	Zero Out: Stream #3
331.00	331.00	249.5	178.8	Flow-Through Basin: Stream #2
16.667	60.02			
331.00	12720.50	2221.6	2316.3	Stream #2 Added to: Stream #1
18.500				
12720.50	12720.50	178.8	0.0	Zero Out: Stream #2

12720.50	127.00	2316.3	2312.7	Convex Routing: Stream #1
18.583				
12710.00	127.00	0.0	29.7	Subarea (UH) Added to Stream #2
16.417				
127.00	127.00	2312.7	2315.9	Stream #2 Added to: Stream #1
18.583				
127.00	127.00	29.7	0.0	Zero Out: Stream #2
50150.00	127.00	0.0	45.5	Subarea (UH) Added to Stream #2
16.500				
127.00	127.00	2315.9	2325.0	Stream #2 Added to: Stream #1
18.583				
127.00	127.00	45.5	0.0	Zero Out: Stream #2
127.00	129.00	2325.0	2315.9	Convex Routing: Stream #1
18.750				
50300.00	129.00	0.0	30.2	Subarea (UH) Added to Stream #2
16.500				
129.00	129.00	2315.9	2320.8	Stream #2 Added to: Stream #1
18.750				
129.00	129.00	30.2	0.0	Zero Out: Stream #2
210.00	221.00	0.0	43.5	Subarea (UH) Added to Stream #2
16.333				
221.00	221.00	43.5	14.8	Flowby Basin Model: Stream #2
16.333				
221.00	223.00	14.8	11.9	Flow-Through Basin: Stream #2
17.417	3.45			
221.00	222.00	28.7	5.1	Flow-Through Basin: Stream #5
18.417	4.47			
223.00	222.00	11.9	16.9	Stream #5 Added to: Stream #2
17.500				
222.00	222.00	5.1	0.0	Zero Out: Stream #5
222.00	129.00	2320.8	2335.7	Stream #2 Added to: Stream #1
18.750				
129.00	129.00	16.9	0.0	Zero Out: Stream #2
129.00	133.00	2335.7	2332.1	Convex Routing: Stream #1
18.833				
13010.00	132.00	0.0	300.6	Subarea (UH) Added to Stream #2
17.000				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV05137C.DAT ]
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-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----+-----+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 300.6    300.6|
17.000 |
| 132.00    132.00| Zero Out:           Stream #3| 0.0      0.0|
|
| 132.00    132.00| Zero Out:           Stream #4| 0.0      0.0|
|
| 132.00    13305.00| Convex Routing:     Stream #2| 300.6    293.3|
17.583 |
| 13305.00    133.00| Convex Routing:     Stream #2| 293.3    291.9|
17.833 |
-----+-----+-----+-----+
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0      152.6|
16.750 |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 291.9    399.0|
17.667 |
| 133.00    133.00| Zero Out:           Stream #3| 152.6    0.0|
|
| 133.00    133.00| Stream #2 Added to:  Stream #1| 2332.1   2636.6|
18.417 |
| 133.00    133.00| Zero Out:           Stream #2| 399.0    0.0|
|
-----+-----+-----+-----+
| 133.00    134.00| Convex Routing:     Stream #1| 2636.6   2634.0|
18.583 |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0      148.2|
16.417 |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 2634.0   2671.9|
18.500 |
| 134.00    134.00| Zero Out:           Stream #2| 148.2    0.0|
|
| 13500.00    134.00| Subarea (UH) Added to Stream #2| 0.0      145.3|
18.083 |
-----+-----+-----+-----+
| 134.00    134.00| Stream #2 Added to:  Stream #1| 2671.9   2813.1|
18.583 |
| 134.00    134.00| Zero Out:           Stream #2| 145.3    0.0|
|
| 134.00    137.00| Convex Routing:     Stream #1| 2813.1   2811.2|
18.667 |
| 134.00    137.00| Subarea (UH) Added to Stream #2| 0.0      118.0|
16.500 |

```

	137.00	137.00	Stream #2 Added to:	Stream #1	2811.2	2852.2	
18.417							
+-----+-----+-----+-----+-----+							
	137.00	137.00	Zero Out:	Stream #2	118.0	0.0	
	137.00	137.00	View:	Stream #1	2852.2		
18.417		2591.85	3				
+-----+-----+-----+-----+-----+							

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 138 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 5-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV05138C.DAT
TIME/DATE OF STUDY: 16:25 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 3.308 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.845
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.24; 30-MINUTE = 0.45; 1-HOUR = 0.64
3-HOUR = 1.19; 6-HOUR = 1.77; 24-HOUR = 3.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.493; LOW LOSS FRACTION = 0.948
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.485; LOW LOSS FRACTION = 0.933
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<



```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.330 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.167; LOW LOSS FRACTION = 0.352
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.447
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392

```

3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.448 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.472; LOW LOSS FRACTION = 0.863
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.370 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.489; LOW LOSS FRACTION = 0.949  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.447 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.491; LOW LOSS FRACTION = 0.915  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.444 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.470; LOW LOSS FRACTION = 0.908
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.286 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.213; LOW LOSS FRACTION = 0.446
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.986 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.789  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR           Qenter           Qpass
      NUMBER             (CFS)             (CFS)
      -                 0.00             0.00
      1                 413.00            413.00
      2                 1897.00           1613.00
      3                 4682.00           3013.00
      4                 6819.00           4013.00
      5                 8100.00           4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01      CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05      MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.700 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.375; LOW LOSS FRACTION = 0.691  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.390 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.409; LOW LOSS FRACTION = 0.762  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 2.179 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.473; LOW LOSS FRACTION = 0.843  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00  
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.439 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.395; LOW LOSS FRACTION = 0.714  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7  
-----

-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70  
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.607 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.445; LOW LOSS FRACTION = 0.797  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

```

=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 11
=====
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

```

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-----+-----
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV05138C.DAT ]
Page: 1 of 1
-----+-----
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----
| 10100.00   119.00| Subarea (UH) Added to Stream #1|      0.0    2245.1|
19.333 |                                     |
| 119.00     126.00| Convex Routing:      Stream #1|    2245.1    2215.8|
19.250 |                                     |
| 40400.00   126.00| Subarea (UH) Added to Stream #2|      0.0     34.7|
16.417 |                                     |
| 126.00     126.00| Stream #2 Added to:  Stream #1|    2215.8    2218.6|
19.250 |                                     |
| 126.00     126.00| Zero Out:           Stream #2|     34.7     0.0|
|                                     |
-----+-----
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0     6.1|
16.417 |                                     |
| 126.00     126.00| Stream #2 Added to:  Stream #1|    2218.6    2219.1|
19.250 |                                     |
| 126.00     126.00| Zero Out:           Stream #2|      6.1     0.0|
|                                     |
| 126.00    12720.50| Convex Routing:      Stream #1|    2219.1    2213.1|
19.500 |                                     |
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0    153.7|
16.417 |                                     |
-----+-----
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0     92.2|
16.333 |                                     |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0     6.3|
16.500 |                                     |
| 331.00     331.00| Stream #4 Added to:  Stream #2|    153.7    159.5|
16.417 |                                     |
| 331.00     331.00| Zero Out:           Stream #4|      6.3     0.0|
|                                     |
| 331.00     331.00| Stream #3 Added to:  Stream #2|    159.5    247.2|
16.333 |                                     |
-----+-----
| 331.00     331.00| Zero Out:           Stream #3|     92.2     0.0|
|                                     |
| 331.00     331.00| Flow-Through Basin: Stream #2|    247.2    177.6|
16.667 |      59.94|                                     |
| 331.00    12720.50| Stream #2 Added to:  Stream #1|    2213.1    2309.6|
18.500 |                                     |
| 12720.50   12720.50| Zero Out:           Stream #2|    177.6     0.0|
|                                     |

```



12720.50	127.00	Convex Routing:	Stream #1	2309.6	2306.1
18.583					
+-----+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	28.6
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	2306.1	2309.3
18.583					
127.00	127.00	Zero Out:	Stream #2	28.6	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	44.2
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	2309.3	2318.4
18.583					
+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	44.2	0.0
127.00	129.00	Convex Routing:	Stream #1	2318.4	2309.4
18.750					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	29.4
16.500					
129.00	129.00	Stream #2 Added to:	Stream #1	2309.4	2314.3
18.750					
129.00	129.00	Zero Out:	Stream #2	29.4	0.0
+-----+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	43.1
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	43.1	14.8
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	14.8	11.9
17.417	3.45				
221.00	222.00	Flow-Through Basin:	Stream #5	28.3	5.1
18.417	4.45				
223.00	222.00	Stream #5 Added to:	Stream #2	11.9	16.9
17.500					
+-----+-----+					
222.00	222.00	Zero Out:	Stream #5	5.1	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	2314.3	2329.1
18.750					
129.00	129.00	Zero Out:	Stream #2	16.9	0.0
129.00	133.00	Convex Routing:	Stream #1	2329.1	2325.6
18.833					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	297.0
17.000					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 |  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
 |

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV05138C.DAT ]

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UPSTREAM TIME (2) TO   NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE   NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS   FOOTNOTES	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
--	--	---	------------------------	--------------------------

132.00	132.00	Flowby Basin Model:	Stream #2	297.0	297.0
17.000					
132.00	132.00	Zero Out:	Stream #3	0.0	0.0
132.00	132.00	Zero Out:	Stream #4	0.0	0.0
132.00	13305.00	Convex Routing:	Stream #2	297.0	289.9
17.583					
13305.00	133.00	Convex Routing:	Stream #2	289.9	288.5
17.833					

132.00	133.00	Subarea (UH) Added to Stream #3		0.0	150.8
16.750					
133.00	133.00	Stream #3 Added to:	Stream #2	288.5	395.5
17.667					
133.00	133.00	Zero Out:	Stream #3	150.8	0.0
133.00	133.00	Stream #2 Added to:	Stream #1	2325.6	2629.5
18.417					
133.00	133.00	Zero Out:	Stream #2	395.5	0.0

133.00	134.00	Convex Routing:	Stream #1	2629.5	2626.9
18.583					
133.00	134.00	Subarea (UH) Added to Stream #2		0.0	145.7
16.417					
134.00	134.00	Stream #2 Added to:	Stream #1	2626.9	2664.7
18.500					
134.00	134.00	Zero Out:	Stream #2	145.7	0.0
13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	144.0
18.083					

134.00	134.00	Stream #2 Added to:	Stream #1	2664.7	2804.8
18.583					
134.00	134.00	Zero Out:	Stream #2	144.0	0.0
134.00	137.00	Convex Routing:	Stream #1	2804.8	2802.8
18.667					
134.00	137.00	Subarea (UH) Added to Stream #2		0.0	116.3
16.500					

137.00	137.00	Stream #2 Added to:	Stream #1	2802.8	2843.6
18.417					

137.00	137.00	Zero Out:	Stream #2	116.3	0.0
137.00	138.00	Convex Routing:	Stream #1	2843.6	2840.5
18.583					
137.00	138.00	Subarea (UH) Added to Stream #2		0.0	82.2
16.667					
138.00	138.00	Stream #2 Added to:	Stream #1	2840.5	2873.1
18.500					
138.00	138.00	Zero Out:	Stream #2	82.2	0.0

138.00	138.00	View:	Stream #1		2873.1
18.500	2630.46	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 139 \*  
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*  
\* 5-YR EV AUG 2023 ROKAMOTO \*  
\*\*\*\*\*

FILE NAME: EV05139C.DAT  
TIME/DATE OF STUDY: 16:24 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 3.308 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.845  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.24; 30-MINUTE = 0.45; 1-HOUR = 0.64  
3-HOUR = 1.18; 6-HOUR = 1.75; 24-HOUR = 3.10  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.335 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.493; LOW LOSS FRACTION = 0.948  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56  
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.335 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.485; LOW LOSS FRACTION = 0.933  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56  
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.330 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.167; LOW LOSS FRACTION = 0.352
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.284 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.447
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391

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3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.448 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.472; LOW LOSS FRACTION = 0.863
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.370 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.489; LOW LOSS FRACTION = 0.949  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56  
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.447 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.491; LOW LOSS FRACTION = 0.915  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.56  
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE    127.00 TO NODE    127.00 IS CODE =    6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) =    0.01    CHANNEL Z =    3.00
UPSTREAM ELEVATION (FT) =    240.00; DOWNSTREAM ELEVATION (FT) =    213.00
CHANNEL LENGTH (FT) =    4905.42    MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) =    0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE    129.00 IS CODE =    1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA =    634.200 ACRES; BASEFLOW =    0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME =    0.444 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) =    0.470; LOW LOSS FRACTION = 0.908
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE =    0.18; 30-MINUTE =    0.42; 1-HOUR =    0.56
3-HOUR =    0.94; 6-HOUR =    1.30; 24-HOUR =    2.17
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE =    0.286; 30-MINUTE =    0.348; 1-HOUR =    0.391
3-HOUR =    0.733; 6-HOUR =    0.885; 24-HOUR =    0.932

*****
FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =    7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =    6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =    1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA =    213.700 ACRES; BASEFLOW =    0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME =    0.286 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) =    0.213; LOW LOSS FRACTION = 0.446
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE =    0.18; 30-MINUTE =    0.42; 1-HOUR =    0.56
3-HOUR =    0.94; 6-HOUR =    1.30; 24-HOUR =    2.17
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE =    0.286; 30-MINUTE =    0.348; 1-HOUR =    0.391
3-HOUR =    0.733; 6-HOUR =    0.885; 24-HOUR =    0.932

*****
FLOW PROCESS FROM NODE    221.00 TO NODE    221.00 IS CODE =    2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                  0.00              0.00
          1                  25.00             13.59
          2                  75.00             16.84
          3                  100.00            18.46
          4                  250.00            28.22
          5                  550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE    221.00 TO NODE    223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) =    2.070
SPECIFIED DEAD STORAGE (AF) FILLED =    0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET =    0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) =    0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                  0.00           0.00           0.000
          2                  1.00           0.01           0.310
          3                  2.00           0.83           1.240
          4                  3.00           5.60           2.600
          5                  4.00          16.88           4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.986 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.789  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR           Qenter           Qpass
      NUMBER             (CFS)             (CFS)
      -                 0.00             0.00
      1                 413.00            413.00
      2                 1897.00           1613.00
      3                 4682.00           3013.00
      4                 6819.00           4013.00
      5                 8100.00           4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
        PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01      CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05      MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.700 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.375; LOW LOSS FRACTION = 0.691  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.18; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00  
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.390 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.409; LOW LOSS FRACTION = 0.762  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 2.179 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.473; LOW LOSS FRACTION = 0.843  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00  
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.439 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.395; LOW LOSS FRACTION = 0.714  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7  
-----

-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70  
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1  
-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.607 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.445; LOW LOSS FRACTION = 0.797  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 5.2

-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 119.70; DOWNSTREAM ELEVATION(FT) = 100.00  
CHANNEL LENGTH(FT) = 3107.78 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE(CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 1

-----  
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 428.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.255 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.345; LOW LOSS FRACTION = 0.606  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57  
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7

-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6

-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 11

-----  
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<  
-----  
-----

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV05139C.DAT ]

Page: 1 of 1

UPSTREAM TIME (2) PEAK (HR)	DOWNSTREAM NODE # MODELED (AF)	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)	PROCESS
10100.00	119.00	0.0	2205.7	Subarea (UH) Added to Stream #1
19.333				
119.00	126.00	2205.7	2180.8	Convex Routing: Stream #1
19.250				
40400.00	126.00	0.0	28.5	Subarea (UH) Added to Stream #2
16.417				
126.00	126.00	2180.8	2183.5	Stream #2 Added to: Stream #1
19.250				
126.00	126.00	28.5	0.0	Zero Out: Stream #2
600.00	126.00	0.0	5.0	Subarea (UH) Added to Stream #2
16.417				
126.00	126.00	2183.5	2184.0	Stream #2 Added to: Stream #1
19.250				
126.00	126.00	5.0	0.0	Zero Out: Stream #2
126.00	12720.50	2184.0	2177.7	Convex Routing: Stream #1
19.333				
320.00	331.00	0.0	148.7	Subarea (UH) Added to Stream #2
16.417				
400.00	331.00	0.0	88.8	Subarea (UH) Added to Stream #3
16.333				
390.00	331.00	0.0	5.7	Subarea (UH) Added to Stream #4
16.500				
331.00	331.00	148.7	154.0	Stream #4 Added to: Stream #2
16.417				
331.00	331.00	5.7	0.0	Zero Out: Stream #4
331.00	331.00	154.0	239.9	Stream #3 Added to: Stream #2
16.333				
331.00	331.00	88.8	0.0	Zero Out: Stream #3
331.00	331.00	239.9	173.4	Flow-Through Basin: Stream #2
16.583	59.69			
331.00	12720.50	2177.7	2276.0	Stream #2 Added to: Stream #1
18.500				
12720.50	12720.50	173.4	0.0	Zero Out: Stream #2

12720.50	127.00	2276.0	2272.7	Convex Routing: Stream #1
18.583				
12710.00	127.00	0.0	23.8	Subarea (UH) Added to Stream #2
16.417				
127.00	127.00	2272.7	2275.9	Stream #2 Added to: Stream #1
18.583				
127.00	127.00	23.8	0.0	Zero Out: Stream #2
50150.00	127.00	0.0	38.0	Subarea (UH) Added to Stream #2
16.500				
127.00	127.00	2275.9	2284.8	Stream #2 Added to: Stream #1
18.583				
127.00	127.00	38.0	0.0	Zero Out: Stream #2
127.00	129.00	2284.8	2276.5	Convex Routing: Stream #1
18.750				
50300.00	129.00	0.0	25.7	Subarea (UH) Added to Stream #2
16.500				
129.00	129.00	2276.5	2281.3	Stream #2 Added to: Stream #1
18.750				
129.00	129.00	25.7	0.0	Zero Out: Stream #2
210.00	221.00	0.0	41.5	Subarea (UH) Added to Stream #2
16.333				
221.00	221.00	41.5	14.7	Flowby Basin Model: Stream #2
16.333				
221.00	223.00	14.7	11.8	Flow-Through Basin: Stream #2
17.417	3.44			
221.00	222.00	26.9	5.1	Flow-Through Basin: Stream #5
18.417	4.35			
223.00	222.00	11.8	16.8	Stream #5 Added to: Stream #2
17.500				
222.00	222.00	5.1	0.0	Zero Out: Stream #5
222.00	129.00	2281.3	2296.1	Stream #2 Added to: Stream #1
18.750				
129.00	129.00	16.8	0.0	Zero Out: Stream #2
129.00	133.00	2296.1	2292.7	Convex Routing: Stream #1
18.833				
13010.00	132.00	0.0	284.8	Subarea (UH) Added to Stream #2
17.000				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV05139C.DAT ]
Page: 2 of |
+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 284.8    284.8|
17.000 |
| 132.00    132.00| Zero Out:           Stream #3| 0.0      0.0|
|
| 132.00    132.00| Zero Out:           Stream #4| 0.0      0.0|
|
| 132.00    13305.00| Convex Routing:     Stream #2| 284.8    279.2|
17.583 |
| 13305.00    133.00| Convex Routing:     Stream #2| 279.2    277.9|
17.833 |
+-----+
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0      145.3|
16.750 |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 277.9    384.7|
17.667 |
| 133.00    133.00| Zero Out:           Stream #3| 145.3    0.0|
|
| 133.00    133.00| Stream #2 Added to:  Stream #1| 2292.7   2593.2|
18.417 |
| 133.00    133.00| Zero Out:           Stream #2| 384.7    0.0|
|
+-----+
| 133.00    134.00| Convex Routing:     Stream #1| 2593.2   2590.5|
18.583 |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0      144.9|
16.417 |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 2590.5   2627.8|
18.583 |
| 134.00    134.00| Zero Out:           Stream #2| 144.9    0.0|
|
| 13500.00   134.00| Subarea (UH) Added to Stream #2| 0.0      143.5|
18.083 |
+-----+
| 134.00    134.00| Stream #2 Added to:  Stream #1| 2627.8   2768.0|
18.583 |
| 134.00    134.00| Zero Out:           Stream #2| 143.5    0.0|
|
| 134.00    137.00| Convex Routing:     Stream #1| 2768.0   2765.4|
18.667 |
| 134.00    137.00| Subarea (UH) Added to Stream #2| 0.0      115.7|
16.500 |

```

	137.00	137.00	Stream #2 Added to:	Stream #1	2765.4	2804.7
18.417						
+-----+						
	137.00	137.00	Zero Out:	Stream #2	115.7	0.0
	137.00	138.00	Convex Routing:	Stream #1	2804.7	2801.6
18.583						
	137.00	138.00	Subarea (UH) Added to	Stream #2	0.0	81.7
16.667						
	138.00	138.00	Stream #2 Added to:	Stream #1	2801.6	2833.8
18.583						
	138.00	138.00	Zero Out:	Stream #2	81.7	0.0
+-----+						
	138.00	139.00	Convex Routing:	Stream #1	2833.8	2833.1
18.667						
	138.00	139.00	Subarea (UH) Added to	Stream #2	0.0	63.8
16.333						
	139.00	139.00	Stream #2 Added to:	Stream #1	2833.1	2845.5
18.667						
	139.00	139.00	Zero Out:	Stream #2	63.8	0.0
	139.00	139.00	View:	Stream #1		2845.5
18.667		2635.55	3			

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RANCHO MISSION VIEJO - COMPLEX UH \*
\* PHASE CONDITION NO PA 4 & 5 - REGIONAL NODE 119 \*
\* 10-YR EV APRIL 2019 FKAZI \*

FILE NAME: EV10119F.DAT
TIME/DATE OF STUDY: 11:35 04/11/2019

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.345; 30-MINUTE = 0.395; 1-HOUR = 0.435
3-HOUR = 0.785; 6-HOUR = 0.904; 24-HOUR = 0.944

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 119.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

\*\*\*\*\*

-----+
| \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*
| INPUT FILENAME: [EV10119F.DAT ]
Page: 1 of |
+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS |PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
+-----+-----+
| 10100.00 119.00| Subarea (UH) Added to Stream #1| 0.0 7197.1|
18.333 | | |
| 119.00 119.00| View: Stream #1| 7197.1|
18.333 | 4873.66| 3 |
+-----+-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL |
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM |
+-----+-----+

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 126 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV DEC 2022 ROKAMOTO \*

FILE NAME: EV10126F.DAT
TIME/DATE OF STUDY: 07:00 12/13/2022

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.312 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.874
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<



\*\*\*\*\*  
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

-----+  
| \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*  
|

| INPUT FILENAME: [EV10126F.DAT ]  
Page: 1 of |

-----+-----+-----+  
| UPSTREAM DOWNSTREAM | UPSTREAM DOWNSTREAM |  
TIME (2) TO | MAX. STORAGE |  
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |  
PEAK (HR) | MODELED (AF) | FOOTNOTES |

-----+-----+-----+  
| 10100.00 119.00 | Subarea (UH) Added to Stream #1 | 0.0 7130.5 |  
18.333 | | |  
| 119.00 126.00 | Convex Routing: Stream #1 | 7130.5 7088.2 |  
18.500 | | |  
| 40400.00 126.00 | Subarea (UH) Added to Stream #2 | 0.0 174.5 |  
16.333 | | |  
| 126.00 126.00 | Stream #2 Added to: Stream #1 | 7088.2 7099.0 |  
18.500 | | |  
| 126.00 126.00 | Zero Out: Stream #2 | 174.5 0.0 |

-----+-----+-----+  
| 600.00 126.00 | Subarea (UH) Added to Stream #2 | 0.0 27.6 |  
16.417 | | |  
| 126.00 126.00 | Stream #2 Added to: Stream #1 | 7099.0 7101.0 |  
18.500 | | |  
| 126.00 126.00 | Zero Out: Stream #2 | 27.6 0.0 |  
| 126.00 126.00 | View: Stream #1 | 7101.0 |  
18.500 | 4889.29 | 3 |

-----+-----+-----+  
| Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL |  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |

-----+  
END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 127 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV10127C.DAT
TIME/DATE OF STUDY: 15:31 05/16/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.312 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.27; 30-MINUTE = 0.61; 1-HOUR = 0.80
3-HOUR = 1.35; 6-HOUR = 1.86; 24-HOUR = 3.11
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.27; 30-MINUTE = 0.61; 1-HOUR = 0.80
3-HOUR = 1.35; 6-HOUR = 1.86; 24-HOUR = 3.11
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.305 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.297
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.27; 30-MINUTE = 0.61; 1-HOUR = 0.80
3-HOUR = 1.35; 6-HOUR = 1.86; 24-HOUR = 3.11
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.260 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.385
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.27; 30-MINUTE = 0.61; 1-HOUR = 0.80
3-HOUR = 1.35; 6-HOUR = 1.86; 24-HOUR = 3.11
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424

```

3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.394 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.778
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.27; 30-MINUTE = 0.61; 1-HOUR = 0.80
3-HOUR = 1.35; 6-HOUR = 1.86; 24-HOUR = 3.11
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.450 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.898  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.27; 30-MINUTE = 0.61; 1-HOUR = 0.80  
3-HOUR = 1.35; 6-HOUR = 1.86; 24-HOUR = 3.11  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.389 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.841  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.27; 30-MINUTE = 0.61; 1-HOUR = 0.80  
3-HOUR = 1.35; 6-HOUR = 1.86; 24-HOUR = 3.11  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

```

-----+-----
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV10127C.DAT ]
| Page: 1 of |
+-----+-----+-----+-----+-----+-----+
| UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM| |
| TIME (2) TO | MAX. STORAGE|                                     |                                     |
| NODE #      NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
| PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+-----+-----+-----+-----+-----+
| 10100.00   119.00| Subarea (UH) Added to Stream #1|      0.0      6957.3|
18.333 |                                     |
| 119.00     126.00| Convex Routing:      Stream #1|    6957.3    6917.7|
18.500 |                                     |
| 40400.00   126.00| Subarea (UH) Added to Stream #2|      0.0      180.2|
16.333 |                                     |
| 126.00     126.00| Stream #2 Added to:  Stream #1|    6917.7    6928.9|
18.500 |                                     |
| 126.00     126.00| Zero Out:           Stream #2|    180.2     0.0|
|                                     |
+-----+-----+-----+-----+-----+-----+
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0      27.9|
16.417 |                                     |
| 126.00     126.00| Stream #2 Added to:  Stream #1|    6928.9    6930.6|
18.500 |                                     |
| 126.00     126.00| Zero Out:           Stream #2|    27.9      0.0|
|                                     |
| 126.00    12720.50| Convex Routing:      Stream #1|    6930.6    6897.5|
18.583 |                                     |
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0      296.0|
16.333 |                                     |
+-----+-----+-----+-----+-----+-----+
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0      195.1|
16.333 |                                     |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0      25.0|
16.417 |                                     |
| 331.00     331.00| Stream #4 Added to:  Stream #2|    296.0     318.0|
16.333 |                                     |
| 331.00     331.00| Zero Out:           Stream #4|    25.0      0.0|
|                                     |
| 331.00     331.00| Stream #3 Added to:  Stream #2|    318.0     513.1|
16.333 |                                     |
+-----+-----+-----+-----+-----+-----+
| 331.00     331.00| Zero Out:           Stream #3|    195.1     0.0|
|                                     |
| 331.00     331.00| Flow-Through Basin: Stream #2|    513.1     346.6|
16.583 |    68.66|                                     |
| 331.00    12720.50| Stream #2 Added to:  Stream #1|    6897.5    7067.8|
18.583 |                                     |
| 12720.50   12720.50| Zero Out:           Stream #2|    346.6     0.0|
|                                     |

```

12720.50	127.00	Convex Routing:	Stream #1	7067.8	7053.8
18.667					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	128.0
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	7053.8	7063.0
18.667					
127.00	127.00	Zero Out:	Stream #2	128.0	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	213.9
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	7063.0	7083.1
18.667					
+-----+					
127.00	127.00	Zero Out:	Stream #2	213.9	0.0
127.00	127.00	View:	Stream #1		7083.1
18.667	5081.31	3			
+-----+					
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL					
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM					
+-----+					

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 137 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV10137C.DAT
TIME/DATE OF STUDY: 16:19 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.312 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.305 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.297
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.260 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.385
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394

```

3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.394 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.778
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```



SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.450 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.898  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.389 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.855  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.410 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.855
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.268 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.391
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.938 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.727  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00        3013.00
      4              6819.00        4013.00
      5              8100.00        4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              1.50      0.01      0.002
      3              2.00      0.02      1.900
      4              4.00      0.03      16.100
      5              4.30      0.05      18.200
      6              5.00      314.00    23.200
      7              6.00      1306.00   30.300
      8              7.00      2847.00   39.100
      9              8.00      4942.00   47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              0.99      2.90      0.900
      3              1.99      11.38     2.900
      4              3.99      19.63     10.300
      5              5.99      25.19     20.700
      6              7.99      29.71     31.700
      7              9.99      33.62     43.500
      8              10.99     35.49     49.700
      9              11.99     313.49    56.400
      10             12.99     894.27    63.100
      11             13.99     1748.55   69.900
      12             15.99     4306.91   84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.688 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.618  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00 UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00 CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.390 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.690 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78 3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394 3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 1.489 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.760 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78 3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394 3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2 \*\*\*\*\*

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00 UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00 CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.447 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.636 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78 3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394 3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\* FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

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=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

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-----+-----
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV10137C.DAT ]
Page: 1 of |
-----+-----
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----
| 10100.00  119.00| Subarea (UH) Added to Stream #1|      0.0    6246.9|
18.333 | |
| 119.00    126.00| Convex Routing:      Stream #1|  6246.9    6220.3|
18.500 | |
| 40400.00  126.00| Subarea (UH) Added to Stream #2|      0.0    137.4|
16.417 | |
| 126.00    126.00| Stream #2 Added to:  Stream #1|  6220.3    6231.3|
18.500 | |
| 126.00    126.00| Zero Out:           Stream #2|  137.4     0.0|
| |
-----+-----
| 600.00    126.00| Subarea (UH) Added to Stream #2|      0.0     21.4|
16.417 | |
| 126.00    126.00| Stream #2 Added to:  Stream #1|  6231.3    6233.1|
18.500 | |
| 126.00    126.00| Zero Out:           Stream #2|  21.4     0.0|
| |
| 126.00   12720.50| Convex Routing:      Stream #1|  6233.1    6194.2|
18.583 | |
| 320.00    331.00| Subarea (UH) Added to Stream #2|      0.0     252.1|
16.333 | |
-----+-----
| 400.00    331.00| Subarea (UH) Added to Stream #3|      0.0     163.6|
16.333 | |
| 390.00    331.00| Subarea (UH) Added to Stream #4|      0.0     19.8|
16.500 | |
| 331.00    331.00| Stream #4 Added to:  Stream #2|  252.1     269.5|
16.333 | |
| 331.00    331.00| Zero Out:           Stream #4|  19.8     0.0|
| |
| 331.00    331.00| Stream #3 Added to:  Stream #2|  269.5     433.2|
16.333 | |
-----+-----
| 331.00    331.00| Zero Out:           Stream #3|  163.6     0.0|
| |
| 331.00    331.00| Flow-Through Basin: Stream #2|  433.2     294.9|
16.583 | 66.65|
| 331.00   12720.50| Stream #2 Added to:  Stream #1|  6194.2    6361.9|
18.583 | |
| 12720.50  12720.50| Zero Out:           Stream #2|  294.9     0.0|
| |

```

12720.50	127.00	Convex Routing:	Stream #1	6361.9	6346.6
18.667					
+-----+					
12710.00	127.00	Subarea (UH) Added to	Stream #2	0.0	97.2
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	6346.6	6355.8
18.667					
127.00	127.00	Zero Out:	Stream #2	97.2	0.0
50150.00	127.00	Subarea (UH) Added to	Stream #2	0.0	162.3
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	6355.8	6373.8
18.667					
+-----+					
127.00	127.00	Zero Out:	Stream #2	162.3	0.0
127.00	129.00	Convex Routing:	Stream #1	6373.8	6358.0
18.833					
50300.00	129.00	Subarea (UH) Added to	Stream #2	0.0	98.3
16.500					
129.00	129.00	Stream #2 Added to:	Stream #1	6358.0	6367.8
18.833					
129.00	129.00	Zero Out:	Stream #2	98.3	0.0
+-----+					
210.00	221.00	Subarea (UH) Added to	Stream #2	0.0	75.3
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	75.3	16.9
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	16.9	14.1
17.417	3.75				
221.00	222.00	Flow-Through Basin:	Stream #5	58.4	13.4
18.000	8.77				
223.00	222.00	Stream #5 Added to:	Stream #2	14.1	27.4
17.917					
+-----+					
222.00	222.00	Zero Out:	Stream #5	13.4	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	6367.8	6392.3
18.833					
129.00	129.00	Zero Out:	Stream #2	27.4	0.0
129.00	133.00	Convex Routing:	Stream #1	6392.3	6382.2
18.917					
13010.00	132.00	Subarea (UH) Added to	Stream #2	0.0	649.0
17.000					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 |  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
 |





\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 138 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV10138C.DAT
TIME/DATE OF STUDY: 16:19 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.312 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.305 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.297
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.260 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.385
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392

```

3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.394 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.778
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.450 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.898  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.389 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.855  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.410 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.855
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.268 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.391
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.938 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.727  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00        3013.00
      4              6819.00        4013.00
      5              8100.00        4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00          0.00          0.000
      2              1.50          0.01          0.002
      3              2.00          0.02          1.900
      4              4.00          0.03          16.100
      5              4.30          0.05          18.200
      6              5.00          314.00        23.200
      7              6.00          1306.00       30.300
      8              7.00          2847.00       39.100
      9              8.00          4942.00       47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00          0.00          0.000
      2              0.99          2.90          0.900
      3              1.99          11.38         2.900
      4              3.99          19.63         10.300
      5              5.99          25.19         20.700
      6              7.99          29.71         31.700
      7              9.99          33.62         43.500
      8              10.99         35.49         49.700
      9              11.99         313.49        56.400
      10             12.99         894.27        63.100
      11             13.99         1748.55       69.900
      12             15.99         4306.91       84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.688 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.618  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2



>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00 UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00 CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.390 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.690 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78 3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392 3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 1.489 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.760 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78 3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392 3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2 \*\*\*\*\*

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00 UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00 CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.447 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.636 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78 3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392 3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.562 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.267; LOW LOSS FRACTION = 0.717
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

```

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV10138C.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00	0.0	6190.6
18.333			
119.00	126.00	6190.6	6164.3
18.500			
40400.00	126.00	0.0	135.3
16.417			
126.00	126.00	6164.3	6175.3
18.500			
126.00	126.00	135.3	0.0
600.00	126.00	0.0	21.0
16.417			
126.00	126.00	6175.3	6177.1
18.500			
126.00	126.00	21.0	0.0
126.00	12720.50	6177.1	6138.6
18.583			
320.00	331.00	0.0	250.1
16.333			
400.00	331.00	0.0	162.1
16.333			
390.00	331.00	0.0	19.6
16.500			
331.00	331.00	250.1	267.3
16.333			
331.00	331.00	19.6	0.0
331.00	331.00	267.3	429.4
16.333			
331.00	331.00	162.1	0.0
331.00	331.00	429.4	292.3
16.583	66.55		
331.00	12720.50	6138.6	6306.3
18.583			
12720.50	12720.50	292.3	0.0

12720.50	127.00	Convex Routing:	Stream #1	6306.3	6291.2
18.667					
12710.00	127.00	Subarea (UH) Added to	Stream #2	0.0	95.8
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	6291.2	6300.4
18.667					
127.00	127.00	Zero Out:	Stream #2	95.8	0.0
50150.00	127.00	Subarea (UH) Added to	Stream #2	0.0	160.1
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	6300.4	6318.4
18.667					
127.00	127.00	Zero Out:	Stream #2	160.1	0.0
127.00	129.00	Convex Routing:	Stream #1	6318.4	6302.7
18.833					
50300.00	129.00	Subarea (UH) Added to	Stream #2	0.0	96.9
16.500					
129.00	129.00	Stream #2 Added to:	Stream #1	6302.7	6312.5
18.833					
129.00	129.00	Zero Out:	Stream #2	96.9	0.0
210.00	221.00	Subarea (UH) Added to	Stream #2	0.0	74.6
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	74.6	16.8
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	16.8	14.1
17.417	3.75				
221.00	222.00	Flow-Through Basin:	Stream #5	57.8	13.3
18.000	8.75				
223.00	222.00	Stream #5 Added to:	Stream #2	14.1	27.3
17.917					
222.00	222.00	Zero Out:	Stream #5	13.3	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	6312.5	6336.9
18.833					
129.00	129.00	Zero Out:	Stream #2	27.3	0.0
129.00	133.00	Convex Routing:	Stream #1	6336.9	6327.0
18.917					
13010.00	132.00	Subarea (UH) Added to	Stream #2	0.0	642.8
17.000					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV10138C.DAT ]
Page: 2 of |
+-----+
|UPSTREAM  DOWNSTREAM|                                     | UPSTREAM  DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS)  PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 642.8    598.9|
17.000 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 44.0     0.0|
18.000 | 3.14| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 0.0     0.0|
18.000 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 0.0     0.0|
47.417 | 0.00| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 598.9    598.9|
17.000 | | |
+-----+
| 132.00    132.00| Zero Out:           Stream #3| 0.0     0.0|
| | |
| 132.00    132.00| Flow-Through Basin:  Stream #4| 0.0     0.0|
69.583 | 0.01| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 598.9    598.9|
17.000 | | |
| 132.00    132.00| Zero Out:           Stream #4| 0.0     0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 598.9    577.2|
17.417 | | |
+-----+
| 13305.00    133.00| Convex Routing:     Stream #2| 577.2    572.5|
17.833 | | |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0     299.4|
16.750 | | |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 572.5    751.8|
17.667 | | |
| 133.00    133.00| Zero Out:           Stream #3| 299.4    0.0|
| | |
| 133.00    133.00| Stream #2 Added to:  Stream #1| 6327.0   7010.4|
17.917 | | |
+-----+
| 133.00    133.00| Zero Out:           Stream #2| 751.8    0.0|
| | |
| 133.00    134.00| Convex Routing:     Stream #1| 7010.4   7000.1|
18.167 | | |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0     335.8|
16.417 | | |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 7000.1   7107.8|
18.167 | | |

```

	134.00	134.00	Zero Out:	Stream #2	335.8	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	384.7
17.500						
	134.00	134.00	Stream #2 Added to:	Stream #1	7107.8	7430.7
18.083						
	134.00	134.00	Zero Out:	Stream #2	384.7	0.0
	134.00	137.00	Convex Routing:	Stream #1	7430.7	7419.7
18.333						
	134.00	137.00	Subarea (UH) Added to Stream #2		0.0	247.6
16.500						
+-----+						
	137.00	137.00	Stream #2 Added to:	Stream #1	7419.7	7504.7
18.250						
	137.00	137.00	Zero Out:	Stream #2	247.6	0.0
	137.00	138.00	Convex Routing:	Stream #1	7504.7	7496.0
18.417						
	137.00	138.00	Subarea (UH) Added to Stream #2		0.0	201.5
16.583						
	138.00	138.00	Stream #2 Added to:	Stream #1	7496.0	7564.9
18.417						
+-----+						
	138.00	138.00	Zero Out:	Stream #2	201.5	0.0
	138.00	138.00	View:	Stream #1		7564.9
18.417		5952.62	3			
+-----+						
+-----+						
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL						
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM						
+-----+						
+-----+						

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 139 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 10-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV10139C.DAT
TIME/DATE OF STUDY: 16:18 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.320 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.746
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.33; 30-MINUTE = 0.63; 1-HOUR = 0.88
3-HOUR = 1.65; 6-HOUR = 2.45; 24-HOUR = 4.32
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.312 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.889
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.305 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.297
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.260 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.385
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391

```

3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.394 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.778
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.450 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.898  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.389 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.855  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====



```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 240.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.410 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.855
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.268 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.391
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 2.070
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                 0.00             0.00             0.000
          2                 1.00             0.01             0.310
          3                 2.00             0.83             1.240
          4                 3.00             5.60             2.600
          5                 4.00            16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.938 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.727  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              1.50      0.01      0.002
      3              2.00      0.02      1.900
      4              4.00      0.03      16.100
      5              4.30      0.05      18.200
      6              5.00      314.00    23.200
      7              6.00      1306.00   30.300
      8              7.00      2847.00   39.100
      9              8.00      4942.00   47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              0.99      2.90      0.900
      3              1.99      11.38     2.900
      4              3.99      19.63     10.300
      5              5.99      25.19     20.700
      6              7.99      29.71     31.700
      7              9.99      33.62     43.500
      8              10.99     35.49     49.700
      9              11.99     313.49    56.400
      10             12.99     894.27    63.100
      11             13.99     1748.55   69.900
      12             15.99     4306.91   84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.688 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.618  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78  
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.390 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.690
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.489 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.760
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.447 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.636
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.562 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.267; LOW LOSS FRACTION = 0.717
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 119.70; DOWNSTREAM ELEVATION(FT) = 100.00
CHANNEL LENGTH(FT) = 3107.78 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 428.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.258 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.207; LOW LOSS FRACTION = 0.540
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

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\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV10139C.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00	0.0	6173.0
18.333			
119.00	126.00	6173.0	6147.1
18.500			
40400.00	126.00	0.0	134.6
16.417			
126.00	126.00	6147.1	6158.1
18.500			
126.00	126.00	134.6	0.0
600.00	126.00	0.0	20.9
16.417			
126.00	126.00	6158.1	6159.8
18.500			
126.00	126.00	20.9	0.0
126.00	12720.50	6159.8	6120.5
18.583			
320.00	331.00	0.0	249.3
16.333			
400.00	331.00	0.0	161.6
16.333			
390.00	331.00	0.0	19.5
16.500			
331.00	331.00	249.3	266.5
16.333			
331.00	331.00	19.5	0.0
331.00	331.00	266.5	428.1
16.333			
331.00	331.00	161.6	0.0
331.00	331.00	428.1	291.5
16.583	66.52		
331.00	12720.50	6120.5	6288.3
18.583			
12720.50	12720.50	291.5	0.0

12720.50	127.00	Convex Routing:	Stream #1	6288.3	6273.1
18.667					
12710.00	127.00	Subarea (UH) Added to	Stream #2	0.0	95.3
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	6273.1	6282.3
18.667					
127.00	127.00	Zero Out:	Stream #2	95.3	0.0
50150.00	127.00	Subarea (UH) Added to	Stream #2	0.0	159.3
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	6282.3	6300.3
18.667					
127.00	127.00	Zero Out:	Stream #2	159.3	0.0
127.00	129.00	Convex Routing:	Stream #1	6300.3	6285.0
18.833					
50300.00	129.00	Subarea (UH) Added to	Stream #2	0.0	96.5
16.500					
129.00	129.00	Stream #2 Added to:	Stream #1	6285.0	6294.8
18.833					
129.00	129.00	Zero Out:	Stream #2	96.5	0.0
210.00	221.00	Subarea (UH) Added to	Stream #2	0.0	74.4
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	74.4	16.8
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	16.8	14.1
17.417	3.75				
221.00	222.00	Flow-Through Basin:	Stream #5	57.6	13.3
18.000	8.74				
223.00	222.00	Stream #5 Added to:	Stream #2	14.1	27.3
17.917					
222.00	222.00	Zero Out:	Stream #5	13.3	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	6294.8	6319.1
18.833					
129.00	129.00	Zero Out:	Stream #2	27.3	0.0
129.00	133.00	Convex Routing:	Stream #1	6319.1	6309.4
18.917					
13010.00	132.00	Subarea (UH) Added to	Stream #2	0.0	640.8
17.000					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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+-----+
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV10139C.DAT ]
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+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00 132.00| Flowby Basin Model: Stream #2| 640.8 597.2|
17.000 | | |
| 132.00 132.00| Flow-Through Basin: Stream #3| 43.6 0.0|
17.917 | 3.10| |
| 132.00 132.00| Split Hydrograph: Stream #3| 0.0 0.0|
17.917 | | |
| 132.00 132.00| Flow-Through Basin: Stream #3| 0.0 0.0|
47.500 | 0.00| |
| 132.00 132.00| Stream #3 Added to: Stream #2| 597.2 597.2|
17.000 | | |
+-----+
| 132.00 132.00| Zero Out: Stream #3| 0.0 0.0|
| | |
| 132.00 132.00| Flow-Through Basin: Stream #4| 0.0 0.0|
69.667 | 0.01| |
| 132.00 132.00| Stream #4 Added to: Stream #2| 597.2 597.2|
17.000 | | |
| 132.00 132.00| Zero Out: Stream #4| 0.0 0.0|
| | |
| 132.00 13305.00| Convex Routing: Stream #2| 597.2 575.7|
17.417 | | |
+-----+
| 13305.00 133.00| Convex Routing: Stream #2| 575.7 570.9|
17.833 | | |
| 132.00 133.00| Subarea (UH) Added to Stream #3| 0.0 298.5|
16.750 | | |
| 133.00 133.00| Stream #3 Added to: Stream #2| 570.9 750.3|
17.667 | | |
| 133.00 133.00| Zero Out: Stream #3| 298.5 0.0|
| | |
| 133.00 133.00| Stream #2 Added to: Stream #1| 6309.4 6992.2|
17.917 | | |
+-----+
| 133.00 133.00| Zero Out: Stream #2| 750.3 0.0|
| | |
| 133.00 134.00| Convex Routing: Stream #1| 6992.2 6982.1|
18.167 | | |
| 133.00 134.00| Subarea (UH) Added to Stream #2| 0.0 334.5|
16.417 | | |
| 134.00 134.00| Stream #2 Added to: Stream #1| 6982.1 7089.9|
18.167 | | |

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	134.00	134.00	Zero Out:	Stream #2	334.5	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	383.7
17.500						
	134.00	134.00	Stream #2 Added to:	Stream #1	7089.9	7412.4
18.083						
	134.00	134.00	Zero Out:	Stream #2	383.7	0.0
	134.00	137.00	Convex Routing:	Stream #1	7412.4	7401.4
18.333						
	134.00	137.00	Subarea (UH) Added to Stream #2		0.0	246.7
16.500						
+-----+						
	137.00	137.00	Stream #2 Added to:	Stream #1	7401.4	7486.6
18.250						
	137.00	137.00	Zero Out:	Stream #2	246.7	0.0
	137.00	138.00	Convex Routing:	Stream #1	7486.6	7478.0
18.417						
	137.00	138.00	Subarea (UH) Added to Stream #2		0.0	200.7
16.583						
	138.00	138.00	Stream #2 Added to:	Stream #1	7478.0	7547.0
18.417						
+-----+						
	138.00	138.00	Zero Out:	Stream #2	200.7	0.0
	138.00	139.00	Convex Routing:	Stream #1	7547.0	7543.9
18.500						
	138.00	139.00	Subarea (UH) Added to Stream #2		0.0	125.5
16.333						
	139.00	139.00	Stream #2 Added to:	Stream #1	7543.9	7566.2
18.500						
	139.00	139.00	Zero Out:	Stream #2	125.5	0.0
+-----+						
	139.00	139.00	View:	Stream #1		7566.2
18.500		5994.26	3			
+-----+						
+-----+						
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL						
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM						
+-----+						

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RANCHO MISSION VIEJO - COMPLEX UH \*
\* PHASE CONDITION NO PA 4 & 5 - REGIONAL NODE 119 \*
\* 25-YR EV APRIL 2019 FKAZI \*

FILE NAME: EV25119F.DAT
TIME/DATE OF STUDY: 10:55 04/11/2019

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.345; 30-MINUTE = 0.395; 1-HOUR = 0.435
3-HOUR = 0.785; 6-HOUR = 0.904; 24-HOUR = 0.944

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 119.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

\*\*\*\*\*

-----+
| \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*
| INPUT FILENAME: [EV25119F.DAT ]
Page: 1 of |
+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS |PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
+-----+-----+
| 10100.00 119.00| Subarea (UH) Added to Stream #1| 0.0 14918.8|
18.167 | | |
| 119.00 119.00| View: Stream #1| 14918.8|
18.167 | 11847.39| 3 |
+-----+-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL |
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM |
+-----+-----+

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 126 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV25126C.DAT
TIME/DATE OF STUDY: 07:16 05/16/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49495.699 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 12603.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 312.40

CHANNEL LENGTH (FT) = 3157.79 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 810.00 TO NODE 809.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 171.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.124 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.412
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 809.00 TO NODE 12603.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-11 showing increasing values for depth, outflow, and storage.

\*\*\*\*\*

FLOW PROCESS FROM NODE 12603.00 TO NODE 12603.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 12603.00 TO NODE 12603.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 12603.00 TO NODE 126.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 312.40; DOWNSTREAM ELEVATION(FT) = 286.00
CHANNEL LENGTH(FT) = 3046.70 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 920.00 TO NODE 905.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 553.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.222 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.488
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

*****
FLOW PROCESS FROM NODE 905.00 TO NODE 126.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.80	2.460
3	2.00	1.30	5.020
4	3.00	1.60	7.690
5	4.00	17.00	10.460
6	5.00	23.40	13.330
7	6.00	28.50	16.310
8	7.00	230.70	19.400
9	8.00	625.80	22.600
10	9.00	1142.40	25.910
11	10.00	1723.00	29.340

```

=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 218.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.301 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.759
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----

```



END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 127 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV25127C.DAT
TIME/DATE OF STUDY: 12:16 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.625
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.300 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.670
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.294 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.268
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.249 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.346
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424

```

3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.373 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.507
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```



SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.419 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.655  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.369 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.551  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*

FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

```

+-----+
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV25127C.DAT ]
| Page: 1 of |
+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
| TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
| PEAK (HR) | MODELED (AF)| FOOTNOTES |
+-----+
| 10100.00 119.00| Subarea (UH) Added to Stream #1| 0.0 14601.2|
18.167 | |
| 119.00 126.00| Convex Routing: Stream #1| 14601.2 14524.2|
18.250 | |
| 40400.00 126.00| Subarea (UH) Added to Stream #2| 0.0 290.4|
16.333 | |
| 126.00 126.00| Stream #2 Added to: Stream #1| 14524.2 14586.9|
18.250 | |
| 126.00 126.00| Zero Out: Stream #2| 290.4 0.0|
| | |
+-----+
| 600.00 126.00| Subarea (UH) Added to Stream #2| 0.0 43.8|
16.333 | |
| 126.00 126.00| Stream #2 Added to: Stream #1| 14586.9 14595.5|
18.250 | |
| 126.00 126.00| Zero Out: Stream #2| 43.8 0.0|
| | |
| 126.00 12720.50| Convex Routing: Stream #1| 14595.5 14579.3|
18.333 | |
| 320.00 331.00| Subarea (UH) Added to Stream #2| 0.0 372.2|
16.333 | |
+-----+
| 400.00 331.00| Subarea (UH) Added to Stream #3| 0.0 247.7|
16.333 | |
| 390.00 331.00| Subarea (UH) Added to Stream #4| 0.0 41.1|
16.417 | |
| 331.00 331.00| Stream #4 Added to: Stream #2| 372.2 409.6|
16.333 | |
| 331.00 331.00| Zero Out: Stream #4| 41.1 0.0|
| | |
| 331.00 331.00| Stream #3 Added to: Stream #2| 409.6 657.2|
16.333 | |
+-----+
| 331.00 331.00| Zero Out: Stream #3| 247.7 0.0|
| | |
| 331.00 331.00| Flow-Through Basin: Stream #2| 657.2 453.3|
16.500 | 72.64|
| 331.00 12720.50| Stream #2 Added to: Stream #1| 14579.3 14821.3|
18.333 | |
| 12720.50 12720.50| Zero Out: Stream #2| 453.3 0.0|
| | |

```

12720.50	127.00	Convex Routing:	Stream #1	14821.3	14794.2
18.417					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	210.9
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	14794.2	14841.9
18.417					
127.00	127.00	Zero Out:	Stream #2	210.9	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	360.3
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	14841.9	14928.8
18.417					
+-----+					
127.00	127.00	Zero Out:	Stream #2	360.3	0.0
127.00	127.00	View:	Stream #1		14928.8
18.417	12322.13	3			
+-----+					
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL					
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM					
+-----+					

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 137 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV25137C.DAT
TIME/DATE OF STUDY: 16:14 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.625
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.300 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.670
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.294 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.268
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.249 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.346
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394

```

```

3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.373 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.507
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.419 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.655  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.369 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.551  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.386 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.628
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

```

```

FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.257 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.356
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.856 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.567  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933



```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00        3013.00
      4              6819.00        4013.00
      5              8100.00        4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         1.50    0.01    0.002
      3         2.00    0.02    1.900
      4         4.00    0.03    16.100
      5         4.30    0.05    18.200
      6         5.00   314.00   23.200
      7         6.00  1306.00  30.300
      8         7.00  2847.00  39.100
      9         8.00  4942.00  47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         0.99    2.90    0.900
      3         1.99   11.38    2.900
      4         3.99   19.63   10.300
      5         5.99   25.19   20.700
      6         7.99   29.71   31.700
      7         9.99   33.62   43.500
      8        10.99   35.49   49.700
      9        11.99  313.49  56.400
     10        12.99  894.27  63.100
     11        13.99 1748.55  69.900
     12        15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.647 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.409  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.462
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.350 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.463
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.420 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.468
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

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-----+-----
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV25137C.DAT ]
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-----+-----
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----
| 10100.00  119.00| Subarea (UH) Added to Stream #1|      0.0   13849.6|
18.167 | | |
| 119.00    126.00| Convex Routing:      Stream #1| 13849.6   13784.4|
18.250 | | |
| 40400.00  126.00| Subarea (UH) Added to Stream #2|      0.0    250.8|
16.333 | | |
| 126.00    126.00| Stream #2 Added to:  Stream #1| 13784.4   13849.6|
18.250 | | |
| 126.00    126.00| Zero Out:           Stream #2|    250.8    0.0|
| | |
-----+-----
| 600.00    126.00| Subarea (UH) Added to Stream #2|      0.0    37.8|
16.333 | | |
| 126.00    126.00| Stream #2 Added to:  Stream #1| 13849.6   13858.6|
18.250 | | |
| 126.00    126.00| Zero Out:           Stream #2|    37.8    0.0|
| | |
| 126.00   12720.50| Convex Routing:      Stream #1| 13858.6   13844.1|
18.333 | | |
| 320.00    331.00| Subarea (UH) Added to Stream #2|      0.0    333.5|
16.333 | | |
-----+-----
| 400.00    331.00| Subarea (UH) Added to Stream #3|      0.0    219.7|
16.333 | | |
| 390.00    331.00| Subarea (UH) Added to Stream #4|      0.0    36.5|
16.417 | | |
| 331.00    331.00| Stream #4 Added to:  Stream #2|    333.5    366.9|
16.333 | | |
| 331.00    331.00| Zero Out:           Stream #4|    36.5    0.0|
| | |
| 331.00    331.00| Stream #3 Added to:  Stream #2|    366.9    586.6|
16.333 | | |
-----+-----
| 331.00    331.00| Zero Out:           Stream #3|    219.7    0.0|
| | |
| 331.00    331.00| Flow-Through Basin: Stream #2|    586.6    414.3|
16.500 | 71.15| |
| 331.00   12720.50| Stream #2 Added to:  Stream #1| 13844.1   14089.3|
18.333 | | |
| 12720.50  12720.50| Zero Out:           Stream #2|    414.3    0.0|
| | |

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12720.50	127.00	Convex Routing:	Stream #1	14089.3	14068.5
18.417					
+-----+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	183.9
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	14068.5	14117.8
18.417					
127.00	127.00	Zero Out:	Stream #2	183.9	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	316.6
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	14117.8	14232.7
17.333					
+-----+-----+					
127.00	127.00	Zero Out:	Stream #2	316.6	0.0
127.00	129.00	Convex Routing:	Stream #1	14232.7	14230.6
17.583					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	173.8
16.417					
129.00	129.00	Stream #2 Added to:	Stream #1	14230.6	14302.2
17.583					
129.00	129.00	Zero Out:	Stream #2	173.8	0.0
+-----+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	101.1
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	101.1	18.5
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	18.5	15.2
17.333	3.90				
221.00	222.00	Flow-Through Basin:	Stream #5	82.5	21.2
17.917	12.35				
223.00	222.00	Stream #5 Added to:	Stream #2	15.2	36.3
17.583					
+-----+-----+					
222.00	222.00	Zero Out:	Stream #5	21.2	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	14302.2	14338.4
17.583					
129.00	129.00	Zero Out:	Stream #2	36.3	0.0
129.00	133.00	Convex Routing:	Stream #1	14338.4	14333.3
17.583					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	1106.3
16.917					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 |  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
 |

\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV25137C.DAT ]

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UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1106.3	973.6
132.00	132.00	132.7	97.9
132.00	132.00	97.9	49.0
132.00	132.00	49.0	12.2
132.00	132.00	973.6	973.6
132.00	132.00	12.2	0.0
132.00	132.00	49.0	10.1
132.00	132.00	973.6	973.6
132.00	132.00	10.1	0.0
132.00	13305.00	973.6	943.2
13305.00	133.00	943.2	935.8
132.00	133.00	0.0	490.9
133.00	133.00	935.8	1294.2
133.00	133.00	490.9	0.0
133.00	133.00	14333.3	15627.5
133.00	133.00	1294.2	0.0
133.00	134.00	15627.5	15613.7
133.00	134.00	0.0	572.3
134.00	134.00	15613.7	15867.7

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1106.3	973.6
132.00	132.00	132.7	97.9
132.00	132.00	97.9	49.0
132.00	132.00	49.0	12.2
132.00	132.00	973.6	973.6
132.00	132.00	12.2	0.0
132.00	132.00	49.0	10.1
132.00	132.00	973.6	973.6
132.00	132.00	10.1	0.0
132.00	13305.00	973.6	943.2
13305.00	133.00	943.2	935.8
132.00	133.00	0.0	490.9
133.00	133.00	935.8	1294.2
133.00	133.00	490.9	0.0
133.00	133.00	14333.3	15627.5
133.00	133.00	1294.2	0.0
133.00	134.00	15627.5	15613.7
133.00	134.00	0.0	572.3
134.00	134.00	15613.7	15867.7

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1106.3	973.6
132.00	132.00	132.7	97.9
132.00	132.00	97.9	49.0
132.00	132.00	49.0	12.2
132.00	132.00	973.6	973.6
132.00	132.00	12.2	0.0
132.00	132.00	49.0	10.1
132.00	132.00	973.6	973.6
132.00	132.00	10.1	0.0
132.00	13305.00	973.6	943.2
13305.00	133.00	943.2	935.8
132.00	133.00	0.0	490.9
133.00	133.00	935.8	1294.2
133.00	133.00	490.9	0.0
133.00	133.00	14333.3	15627.5
133.00	133.00	1294.2	0.0
133.00	134.00	15627.5	15613.7
133.00	134.00	0.0	572.3
134.00	134.00	15613.7	15867.7

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1106.3	973.6
132.00	132.00	132.7	97.9
132.00	132.00	97.9	49.0
132.00	132.00	49.0	12.2
132.00	132.00	973.6	973.6
132.00	132.00	12.2	0.0
132.00	132.00	49.0	10.1
132.00	132.00	973.6	973.6
132.00	132.00	10.1	0.0
132.00	13305.00	973.6	943.2
13305.00	133.00	943.2	935.8
132.00	133.00	0.0	490.9
133.00	133.00	935.8	1294.2
133.00	133.00	490.9	0.0
133.00	133.00	14333.3	15627.5
133.00	133.00	1294.2	0.0
133.00	134.00	15627.5	15613.7
133.00	134.00	0.0	572.3
134.00	134.00	15613.7	15867.7

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1106.3	973.6
132.00	132.00	132.7	97.9
132.00	132.00	97.9	49.0
132.00	132.00	49.0	12.2
132.00	132.00	973.6	973.6
132.00	132.00	12.2	0.0
132.00	132.00	49.0	10.1
132.00	132.00	973.6	973.6
132.00	132.00	10.1	0.0
132.00	13305.00	973.6	943.2
13305.00	133.00	943.2	935.8
132.00	133.00	0.0	490.9
133.00	133.00	935.8	1294.2
133.00	133.00	490.9	0.0
133.00	133.00	14333.3	15627.5
133.00	133.00	1294.2	0.0
133.00	134.00	15627.5	15613.7
133.00	134.00	0.0	572.3
134.00	134.00	15613.7	15867.7

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1106.3	973.6
132.00	132.00	132.7	97.9
132.00	132.00	97.9	49.0
132.00	132.00	49.0	12.2
132.00	132.00	973.6	973.6
132.00	132.00	12.2	0.0
132.00	132.00	49.0	10.1
132.00	132.00	973.6	973.6
132.00	132.00	10.1	0.0
132.00	13305.00	973.6	943.2
13305.00	133.00	943.2	935.8
132.00	133.00	0.0	490.9
133.00	133.00	935.8	1294.2
133.00	133.00	490.9	0.0
133.00	133.00	14333.3	15627.5
133.00	133.00	1294.2	0.0
133.00	134.00	15627.5	15613.7
133.00	134.00	0.0	572.3
134.00	134.00	15613.7	15867.7

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
132.00	132.00	1106.3	973.6
132.00	132.00	132.7	97.9
132.00	132.00	97.9	49.0
132.00	132.00	49.0	12.2
132.00	132.00	973.6	973.6
132.00	132.00	12.2	0.0
132.00	132.00	49.0	10.1
132.00	132.00	973.6	973.6
132.00	132.00	10.1	0.0
132.00	13305.00	973.6	943.2
13305.00	133.00	943.2	935.8
132.00	133.00	0.0	490.9
133.00	133.00	935.8	1294.2
133.00	133.00	490.9	0.0
133.00	133.00	14333.3	15627.5
133.00	133.00	1294.2	0.0
133.00	134.00	15627.5	15613.7
133.00	134.00	0.0	572.3
134.00	134.00	15613.7	15867.7

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 138 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV25138C.DAT
TIME/DATE OF STUDY: 16:13 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.625
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.300 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.670
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.294 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.268
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.249 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.346
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392

```

3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.373 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.507
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```



SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.419 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.655  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.369 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.551  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.386 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.628
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.257 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.356
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                  0.00              0.00
          1                  25.00             13.59
          2                  75.00             16.84
          3                  100.00            18.46
          4                  250.00            28.22
          5                  550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.856 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.567  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00        3013.00
      4              6819.00        4013.00
      5              8100.00        4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00          0.00          0.000
      2              1.50          0.01          0.002
      3              2.00          0.02          1.900
      4              4.00          0.03          16.100
      5              4.30          0.05          18.200
      6              5.00          314.00        23.200
      7              6.00          1306.00       30.300
      8              7.00          2847.00       39.100
      9              8.00          4942.00       47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)        (CFS)        (AF)
      1              0.00          0.00          0.000
      2              0.99          2.90          0.900
      3              1.99          11.38         2.900
      4              3.99          19.63         10.300
      5              5.99          25.19         20.700
      6              7.99          29.71         31.700
      7              9.99          33.62         43.500
      8              10.99         35.49         49.700
      9              11.99         313.49        56.400
      10             12.99         894.27        63.100
      11             13.99         1748.55       69.900
      12             15.99         4306.91       84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.647 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.409  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00 UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00 CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.366 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.462 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95 3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392 3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 1.350 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.463 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95 3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392 3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2 \*\*\*\*\*

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00 UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00 CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.420 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.468 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95 3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392 3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.527 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.267; LOW LOSS FRACTION = 0.525
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

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\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV25138C.DAT ]

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UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00	0.0	13786.7
18.167			
119.00	126.00	13786.7	13722.8
18.250			
40400.00	126.00	0.0	248.0
16.333			
126.00	126.00	13722.8	13788.2
18.250			
126.00	126.00	248.0	0.0

10100.00	119.00	Subarea (UH) Added to Stream #1	0.0	13786.7
18.167				
119.00	126.00	Convex Routing: Stream #1	13786.7	13722.8
18.250				
40400.00	126.00	Subarea (UH) Added to Stream #2	0.0	248.0
16.333				
126.00	126.00	Stream #2 Added to: Stream #1	13722.8	13788.2
18.250				
126.00	126.00	Zero Out: Stream #2	248.0	0.0

600.00	126.00	Subarea (UH) Added to Stream #2	0.0	37.4
16.333				
126.00	126.00	Stream #2 Added to: Stream #1	13788.2	13797.2
18.250				
126.00	126.00	Zero Out: Stream #2	37.4	0.0
126.00	12720.50	Convex Routing: Stream #1	13797.2	13782.7
18.333				
320.00	331.00	Subarea (UH) Added to Stream #2	0.0	330.9
16.333				

400.00	331.00	Subarea (UH) Added to Stream #3	0.0	217.8
16.333				
390.00	331.00	Subarea (UH) Added to Stream #4	0.0	36.2
16.417				
331.00	331.00	Stream #4 Added to: Stream #2	330.9	364.0
16.333				
331.00	331.00	Zero Out: Stream #4	36.2	0.0
331.00	331.00	Stream #3 Added to: Stream #2	364.0	581.7
16.333				

331.00	331.00	Zero Out: Stream #3	217.8	0.0
331.00	331.00	Flow-Through Basin: Stream #2	581.7	411.4
16.500	71.04			
331.00	12720.50	Stream #2 Added to: Stream #1	13782.7	14028.2
18.333				
12720.50	12720.50	Zero Out: Stream #2	411.4	0.0

12720.50	127.00	Convex Routing: Stream #1	14028.2	14007.8
18.417				

12710.00	127.00	Subarea (UH) Added to Stream #2	0.0	181.9
16.500				
127.00	127.00	Stream #2 Added to: Stream #1	14007.8	14057.2
18.417				
127.00	127.00	Zero Out: Stream #2	181.9	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2	0.0	313.5
16.417				
127.00	127.00	Stream #2 Added to: Stream #1	14057.2	14182.9
17.333				

127.00	127.00	Zero Out: Stream #2	313.5	0.0
127.00	129.00	Convex Routing: Stream #1	14182.9	14178.3
17.583				
50300.00	129.00	Subarea (UH) Added to Stream #2	0.0	172.0
16.417				
129.00	129.00	Stream #2 Added to: Stream #1	14178.3	14250.6
17.500				
129.00	129.00	Zero Out: Stream #2	172.0	0.0

210.00	221.00	Subarea (UH) Added to Stream #2	0.0	100.2
16.333				
221.00	221.00	Flowby Basin Model: Stream #2	100.2	18.5
16.333				
221.00	223.00	Flow-Through Basin: Stream #2	18.5	15.1
17.333	3.89			
221.00	222.00	Flow-Through Basin: Stream #5	81.7	21.2
17.917	12.31			
223.00	222.00	Stream #5 Added to: Stream #2	15.1	36.2
17.583				

222.00	222.00	Zero Out: Stream #5	21.2	0.0
222.00	129.00	Stream #2 Added to: Stream #1	14250.6	14286.8
17.500				
129.00	129.00	Zero Out: Stream #2	36.2	0.0
129.00	133.00	Convex Routing: Stream #1	14286.8	14282.5
17.583				
13010.00	132.00	Subarea (UH) Added to Stream #2	0.0	1097.4
16.917				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL

3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM



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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV25138C.DAT ]
Page: 2 of |
+-----+
|UPSTREAM  DOWNSTREAM|                                     | UPSTREAM  DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS)  PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1097.4    966.4|
16.917 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 131.0     96.4|
17.417 | | 19.74| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 96.4      48.2|
17.417 | | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 48.2     12.2|
18.750 | | 3.60| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 966.4    966.4|
16.917 | | | |
+-----+
| 132.00    132.00| Zero Out:           Stream #3| 12.2     0.0|
| | | |
| 132.00    132.00| Flow-Through Basin:  Stream #4| 48.2     10.0|
18.833 | | 3.82| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 966.4    966.4|
16.917 | | | |
| 132.00    132.00| Zero Out:           Stream #4| 10.0     0.0|
| | | |
| 132.00    13305.00| Convex Routing:     Stream #2| 966.4    936.5|
17.417 | | | |
+-----+
| 13305.00   133.00| Convex Routing:     Stream #2| 936.5    929.1|
17.667 | | | |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0     487.2|
16.667 | | | |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 929.1    1286.8|
17.583 | | | |
| 133.00    133.00| Zero Out:           Stream #3| 487.2    0.0|
| | | |
| 133.00    133.00| Stream #2 Added to:  Stream #1| 14282.5  15569.3|
17.583 | | | |
+-----+
| 133.00    133.00| Zero Out:           Stream #2| 1286.8    0.0|
| | | |
| 133.00    134.00| Convex Routing:     Stream #1| 15569.3  15555.7|
17.750 | | | |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0     567.2|
16.417 | | | |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 15555.7  15810.3|
17.750 | | | |

```

	134.00	134.00	Zero Out:	Stream #2	567.2	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	877.1
17.417						
	134.00	134.00	Stream #2 Added to:	Stream #1	15810.3	16646.0
17.667						
	134.00	134.00	Zero Out:	Stream #2	877.1	0.0
	134.00	137.00	Convex Routing:	Stream #1	16646.0	16632.6
17.833						
	134.00	137.00	Subarea (UH) Added to Stream #2		0.0	389.1
16.500						
+-----+						
	137.00	137.00	Stream #2 Added to:	Stream #1	16632.6	16815.4
17.833						
	137.00	137.00	Zero Out:	Stream #2	389.1	0.0
	137.00	138.00	Convex Routing:	Stream #1	16815.4	16806.5
18.000						
	137.00	138.00	Subarea (UH) Added to Stream #2		0.0	346.2
16.583						
	138.00	138.00	Stream #2 Added to:	Stream #1	16806.5	16976.7
18.000						
+-----+						
	138.00	138.00	Zero Out:	Stream #2	346.2	0.0
	138.00	138.00	View:	Stream #1		16976.7
18.000		14411.06	3			
+-----+						
+-----+						
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL						
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM						
+-----+						
+-----+						

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 139 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 25-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV25139C.DAT
TIME/DATE OF STUDY: 16:12 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.119 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.42; 30-MINUTE = 0.78; 1-HOUR = 1.08
3-HOUR = 2.02; 6-HOUR = 3.00; 24-HOUR = 5.30
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.625
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.300 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.670
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.294 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.268
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.249 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.346
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391

```

3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.373 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.507
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.419 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.655  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.369 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.551  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.386 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.628
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.257 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.356
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)          (CFS)          (AF)
          1                  0.00          0.00          0.000
          2                  1.00          0.01          0.310
          3                  2.00          0.83          1.240
          4                  3.00          5.60          2.600
          5                  4.00          16.88         4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.856 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.567  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)          (CFS)
      -              0.00            0.00
      1              413.00          413.00
      2              1897.00         1613.00
      3              4682.00         3013.00
      4              6819.00         4013.00
      5              8100.00         4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER    (FT)   (CFS)   (AF)
      1          0.00    0.00    0.000
      2          1.50    0.01    0.002
      3          2.00    0.02    1.900
      4          4.00    0.03   16.100
      5          4.30    0.05   18.200
      6          5.00   314.00  23.200
      7          6.00  1306.00 30.300
      8          7.00  2847.00 39.100
      9          8.00  4942.00 47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

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-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER    (FT)   (CFS)   (AF)
      1          0.00    0.00    0.000
      2          0.99    2.90    0.900
      3          1.99   11.38    2.900
      4          3.99   19.63   10.300
      5          5.99   25.19   20.700
      6          7.99   29.71   31.700
      7          9.99   33.62   43.500
      8         10.99   35.49   49.700
      9         11.99  313.49  56.400
     10         12.99  894.27  63.100
     11         13.99 1748.55  69.900
     12         15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```



INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.647 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.409  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95  
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.462
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.350 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.463
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.420 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.468
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.527 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.267; LOW LOSS FRACTION = 0.525
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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```

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 119.70; DOWNSTREAM ELEVATION(FT) = 100.00
CHANNEL LENGTH(FT) = 3107.78 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 428.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.247 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.207; LOW LOSS FRACTION = 0.508
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.34; 30-MINUTE = 0.72; 1-HOUR = 0.95
3-HOUR = 1.59; 6-HOUR = 2.20; 24-HOUR = 3.68
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

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\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV25139C.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	13755.8
18.167					
119.00	126.00		Convex Routing: Stream #1	13755.8	13692.2
18.250					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	247.0
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	13692.2	13757.7
18.250					
126.00	126.00		Zero Out: Stream #2	247.0	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	37.2
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	13757.7	13766.7
18.250					
126.00	126.00		Zero Out: Stream #2	37.2	0.0
126.00	12720.50		Convex Routing: Stream #1	13766.7	13752.2
18.333					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	329.9
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	217.0
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	36.0
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	329.9	362.9
16.333					
331.00	331.00		Zero Out: Stream #4	36.0	0.0
331.00	331.00		Stream #3 Added to: Stream #2	362.9	579.9
16.333					
331.00	331.00		Zero Out: Stream #3	217.0	0.0
331.00	331.00		Flow-Through Basin: Stream #2	579.9	410.5
16.500	71.00				
331.00	12720.50		Stream #2 Added to: Stream #1	13752.2	13997.8
18.333					
12720.50	12720.50		Zero Out: Stream #2	410.5	0.0

12720.50	127.00		Convex Routing: Stream #1	13997.8	13977.6
18.417					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	181.2
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	13977.6	14027.1
18.417					
127.00	127.00		Zero Out: Stream #2	181.2	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	312.5
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	14027.1	14157.0
17.333					
127.00	127.00		Zero Out: Stream #2	312.5	0.0
127.00	129.00		Convex Routing: Stream #1	14157.0	14151.2
17.583					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	171.4
16.417					
129.00	129.00		Stream #2 Added to: Stream #1	14151.2	14224.4
17.500					
129.00	129.00		Zero Out: Stream #2	171.4	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	99.8
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	99.8	18.4
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	18.4	15.1
17.333	3.89				
221.00	222.00		Flow-Through Basin: Stream #5	81.4	21.1
17.917	12.30				
223.00	222.00		Stream #5 Added to: Stream #2	15.1	36.1
17.583					
222.00	222.00		Zero Out: Stream #5	21.1	0.0
222.00	129.00		Stream #2 Added to: Stream #1	14224.4	14260.5
17.500					
129.00	129.00		Zero Out: Stream #2	36.1	0.0
129.00	133.00		Convex Routing: Stream #1	14260.5	14256.2
17.583					
13010.00	132.00		Subarea (UH) Added to Stream #2	0.0	1094.5
16.917					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV25139C.DAT ]
Page: 2 of |
+-----+
|UPSTREAM  DOWNSTREAM|                                     | UPSTREAM  DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS)  PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1094.5    964.1|
16.917 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 130.4     96.0|
17.417 | | 19.73| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 96.0      48.0|
17.417 | | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 48.0     12.1|
18.750 | | 3.58| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 964.1    964.1|
16.917 | | | |
+-----+
| 132.00    132.00| Zero Out:           Stream #3| 12.1     0.0|
| | | |
| 132.00    132.00| Flow-Through Basin:  Stream #4| 48.0     10.0|
18.833 | | 3.80| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 964.1    964.1|
16.917 | | | |
| 132.00    132.00| Zero Out:           Stream #4| 10.0     0.0|
| | | |
| 132.00    13305.00| Convex Routing:     Stream #2| 964.1    934.3|
17.417 | | | |
+-----+
| 13305.00   133.00| Convex Routing:     Stream #2| 934.3    926.9|
17.667 | | | |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0     486.0|
16.667 | | | |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 926.9    1284.3|
17.583 | | | |
| 133.00    133.00| Zero Out:           Stream #3| 486.0     0.0|
| | | |
| 133.00    133.00| Stream #2 Added to:  Stream #1| 14256.2  15540.5|
17.583 | | | |
+-----+
| 133.00    133.00| Zero Out:           Stream #2| 1284.3     0.0|
| | | |
| 133.00    134.00| Convex Routing:     Stream #1| 15540.5  15527.0|
17.750 | | | |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0     565.4|
16.417 | | | |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 15527.0  15781.8|
17.750 | | | |

```

	134.00	134.00	Zero Out:	Stream #2	565.4	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	875.5
17.417						
	134.00	134.00	Stream #2 Added to:	Stream #1	15781.8	16616.9
17.667						
	134.00	134.00	Zero Out:	Stream #2	875.5	0.0
	134.00	137.00	Convex Routing:	Stream #1	16616.9	16603.4
17.833						
	134.00	137.00	Subarea (UH) Added to Stream #2		0.0	387.9
16.500						
+-----+						
	137.00	137.00	Stream #2 Added to:	Stream #1	16603.4	16786.4
17.833						
	137.00	137.00	Zero Out:	Stream #2	387.9	0.0
	137.00	138.00	Convex Routing:	Stream #1	16786.4	16777.2
18.000						
	137.00	138.00	Subarea (UH) Added to Stream #2		0.0	345.1
16.583						
	138.00	138.00	Stream #2 Added to:	Stream #1	16777.2	16947.6
18.000						
+-----+						
	138.00	138.00	Zero Out:	Stream #2	345.1	0.0
	138.00	139.00	Convex Routing:	Stream #1	16947.6	16939.0
18.000						
	138.00	139.00	Subarea (UH) Added to Stream #2		0.0	174.3
16.333						
	139.00	139.00	Stream #2 Added to:	Stream #1	16939.0	16992.4
18.000						
	139.00	139.00	Zero Out:	Stream #2	174.3	0.0
+-----+						
	139.00	139.00	View:	Stream #1		16992.4
18.000		14458.77	3			
+-----+						
+-----+						
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL						
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM						
+-----+						

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RANCHO MISSION VIEJO - FREE DRAINING UH \*
\* PHASE CONDITION NO PA 4 & 5 - REGIONAL NODE 119 \*
\* 50-YR EV APRIL 2019 FKAZI \*

FILE NAME: EV50119F.DAT
TIME/DATE OF STUDY: 10:40 04/11/2019

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.043 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.399
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.345; 30-MINUTE = 0.395; 1-HOUR = 0.435
3-HOUR = 0.785; 6-HOUR = 0.904; 24-HOUR = 0.944

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 119.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

\*\*\*\*\*

-----+
| \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*
| INPUT FILENAME: [EV50119F.DAT ]
Page: 1 of |
+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS |PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
+-----+-----+
| 10100.00 119.00| Subarea (UH) Added to Stream #1| 0.0 17850.8|
18.083 | | |
| 119.00 119.00| View: Stream #1| 17850.8|
18.083 | 14164.95| 3 |
+-----+-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL |
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM |
+-----+-----+

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 126 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 50-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV50126C.DAT
TIME/DATE OF STUDY: 11:06 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.043 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.400
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.290 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.592
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.79; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.341; 30-MINUTE = 0.392; 1-HOUR = 0.432
3-HOUR = 0.782; 6-HOUR = 0.902; 24-HOUR = 0.943

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<



\*\*\*\*\*  
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

-----+  
| \* AES FLOODSCx PROGRAM RESULTS SUMMARY \*  
|

| INPUT FILENAME: [EV50126C.DAT ]

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-----+-----+-----+  
| UPSTREAM DOWNSTREAM | UPSTREAM DOWNSTREAM |  
TIME (2) TO | MAX. STORAGE |  
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |  
PEAK (HR) | MODELED (AF) | FOOTNOTES |

-----+-----+-----+  
| 10100.00 119.00 | Subarea (UH) Added to Stream #1 | 0.0 17686.2 |  
18.083 | | |  
| 119.00 126.00 | Convex Routing: Stream #1 | 17686.2 17588.8 |  
18.167 | | |  
| 40400.00 126.00 | Subarea (UH) Added to Stream #2 | 0.0 351.0 |  
16.333 | | |  
| 126.00 126.00 | Stream #2 Added to: Stream #1 | 17588.8 17671.7 |  
18.167 | | |  
| 126.00 126.00 | Zero Out: Stream #2 | 351.0 0.0 |

-----+-----+-----+  
| 600.00 126.00 | Subarea (UH) Added to Stream #2 | 0.0 53.8 |  
16.333 | | |  
| 126.00 126.00 | Stream #2 Added to: Stream #1 | 17671.7 17683.2 |  
18.167 | | |  
| 126.00 126.00 | Zero Out: Stream #2 | 53.8 0.0 |  
| 126.00 126.00 | View: Stream #1 | 17683.2 |  
18.167 | 14244.37 | 3 |

-----+-----+-----+  
| Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT  
INTERVAL |  
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF  
THE DESIGN STORM |

-----+  
END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 127 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 50-YR EV MAY 2023 ROKAMOTO \*

FILE NAME: EV50127C.DAT
TIME/DATE OF STUDY: 11:05 05/13/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.043 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.400
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.290 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.592
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.79; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.252
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.244 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.326
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424

```

3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.475
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.411 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.623  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.363 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.517  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.331; 30-MINUTE = 0.383; 1-HOUR = 0.424  
3-HOUR = 0.773; 6-HOUR = 0.898; 24-HOUR = 0.941

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====



12720.50	127.00	Convex Routing:	Stream #1	17701.0	17657.1
18.333					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	246.6
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	17657.1	17720.8
18.333					
127.00	127.00	Zero Out:	Stream #2	246.6	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	423.8
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	17720.8	17837.5
18.333					
+-----+					
127.00	127.00	Zero Out:	Stream #2	423.8	0.0
127.00	127.00	View:	Stream #1		17837.5
18.333	14716.91	3			
+-----+					
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL					
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM					
+-----+					

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 137 \*  
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*  
\* 50-YR EV AUG 2023 ROKAMOTO \*  
\*\*\*\*\*

FILE NAME: EV50137C.DAT  
TIME/DATE OF STUDY: 15:59 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 2.043 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.400  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21  
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.290 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.592  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.79; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.295 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.638  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.252
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.244 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.326
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394

```

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3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.475
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```



SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.411 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.623  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.363 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.517  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

```

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.378 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.601
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.255 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.337
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00             0.00             0.000
          2                  1.00             0.01             0.310
          3                  2.00             0.83             1.240
          4                  3.00             5.60             2.600
          5                  4.00            16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.821 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.538  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00        3013.00
      4              6819.00        4013.00
      5              8100.00        4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              1.50      0.01      0.002
      3              2.00      0.02      1.900
      4              4.00      0.03      16.100
      5              4.30      0.05      18.200
      6              5.00      314.00    23.200
      7              6.00      1306.00   30.300
      8              7.00      2847.00   39.100
      9              8.00      4942.00   47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

      INTERVAL      DEPTH      OUTFLOW      STORAGE
      NUMBER        (FT)      (CFS)      (AF)
      1              0.00      0.00      0.000
      2              0.99      2.90      0.900
      3              1.99      11.38     2.900
      4              3.99      19.63     10.300
      5              5.99      25.19     20.700
      6              7.99      29.71     31.700
      7              9.99      33.62     43.500
      8              10.99     35.49     49.700
      9              11.99     313.49    56.400
      10             12.99     894.27    63.100
      11             13.99     1748.55   69.900
      12             15.99     4306.91   84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.625 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.383  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394  
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00 UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00 CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.360 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.433 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06 3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394 3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 1.294 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.431 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06 3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394 3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2 \*\*\*\*\*

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00 UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00 CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.413 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.441 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06 3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394 3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

\*\*\*\*\* FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

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|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV50137C.DAT ]
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-----+-----
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----
| 10100.00  119.00| Subarea (UH) Added to Stream #1|      0.0  16546.4|
18.083 | |
| 119.00    126.00| Convex Routing:      Stream #1| 16546.4  16462.6|
18.167 | |
| 40400.00  126.00| Subarea (UH) Added to Stream #2|      0.0   294.4|
16.333 | |
| 126.00    126.00| Stream #2 Added to:  Stream #1| 16462.6  16549.9|
18.167 | |
| 126.00    126.00| Zero Out:           Stream #2|   294.4   0.0|
| |
-----+-----
| 600.00    126.00| Subarea (UH) Added to Stream #2|      0.0   44.7|
16.333 | |
| 126.00    126.00| Stream #2 Added to:  Stream #1| 16549.9  16562.0|
18.167 | |
| 126.00    126.00| Zero Out:           Stream #2|   44.7   0.0|
| |
| 126.00   12720.50| Convex Routing:      Stream #1| 16562.0  16545.7|
18.250 | |
| 320.00    331.00| Subarea (UH) Added to Stream #2|      0.0   378.4|
16.333 | |
-----+-----
| 400.00    331.00| Subarea (UH) Added to Stream #3|      0.0   248.1|
16.333 | |
| 390.00    331.00| Subarea (UH) Added to Stream #4|      0.0   42.7|
16.417 | |
| 331.00    331.00| Stream #4 Added to:  Stream #2|   378.4  417.7|
16.333 | |
| 331.00    331.00| Zero Out:           Stream #4|   42.7   0.0|
| |
| 331.00    331.00| Stream #3 Added to:  Stream #2|   417.7  665.8|
16.333 | |
-----+-----
| 331.00    331.00| Zero Out:           Stream #3|   248.1   0.0|
| |
| 331.00    331.00| Flow-Through Basin: Stream #2|   665.8  474.1|
16.500 | 73.38|
| 331.00   12720.50| Stream #2 Added to:  Stream #1| 16545.7  16827.8|
18.250 | |
| 12720.50  12720.50| Zero Out:           Stream #2|   474.1   0.0|
| |

```

12720.50	127.00	Convex Routing:	Stream #1	16827.8	16794.2
18.333					
+-----+					
12710.00	127.00	Subarea (UH) Added to Stream #2		0.0	215.9
16.500					
127.00	127.00	Stream #2 Added to:	Stream #1	16794.2	16860.3
18.333					
127.00	127.00	Zero Out:	Stream #2	215.9	0.0
50150.00	127.00	Subarea (UH) Added to Stream #2		0.0	372.0
16.417					
127.00	127.00	Stream #2 Added to:	Stream #1	16860.3	17054.5
17.250					
+-----+					
127.00	127.00	Zero Out:	Stream #2	372.0	0.0
127.00	129.00	Convex Routing:	Stream #1	17054.5	17047.2
17.500					
50300.00	129.00	Subarea (UH) Added to Stream #2		0.0	206.4
16.417					
129.00	129.00	Stream #2 Added to:	Stream #1	17047.2	17138.3
17.500					
129.00	129.00	Zero Out:	Stream #2	206.4	0.0
+-----+					
210.00	221.00	Subarea (UH) Added to Stream #2		0.0	114.3
16.333					
221.00	221.00	Flowby Basin Model:	Stream #2	114.3	19.4
16.333					
221.00	223.00	Flow-Through Basin:	Stream #2	19.4	15.8
17.250	3.99				
221.00	222.00	Flow-Through Basin:	Stream #5	94.9	26.0
17.917	14.98				
223.00	222.00	Stream #5 Added to:	Stream #2	15.8	41.6
17.833					
+-----+					
222.00	222.00	Zero Out:	Stream #5	26.0	0.0
222.00	129.00	Stream #2 Added to:	Stream #1	17138.3	17179.6
17.500					
129.00	129.00	Zero Out:	Stream #2	41.6	0.0
129.00	133.00	Convex Routing:	Stream #1	17179.6	17174.7
17.500					
13010.00	132.00	Subarea (UH) Added to Stream #2		0.0	1288.8
16.833					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 |  
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM  
 |



\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

INPUT FILENAME: [EV50137C.DAT ]

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
PEAK (HR)	MODELED (AF)	FOOTNOTES			
132.00	132.00		Flowby Basin Model:	Stream #2	1288.8
16.833					1121.2
132.00	132.00		Flow-Through Basin:	Stream #3	167.6
17.083	20.72				158.2
132.00	132.00		Split Hydrograph:	Stream #3	158.2
17.083					79.1
132.00	132.00		Flow-Through Basin:	Stream #3	79.1
18.833	8.64				17.8
132.00	132.00		Stream #3 Added to:	Stream #2	1121.2
16.833					1130.9
132.00	132.00		Zero Out:	Stream #3	17.8
					0.0
132.00	132.00		Flow-Through Basin:	Stream #4	79.1
18.833	8.74				18.3
132.00	132.00		Stream #4 Added to:	Stream #2	1130.9
16.833					1138.7
132.00	132.00		Zero Out:	Stream #4	18.3
					0.0
132.00	13305.00		Convex Routing:	Stream #2	1138.7
17.333					1126.1
13305.00	133.00		Convex Routing:	Stream #2	1126.1
17.583					1114.0
132.00	133.00		Subarea (UH) Added to	Stream #3	0.0
16.667					575.4
133.00	133.00		Stream #3 Added to:	Stream #2	1114.0
17.500					1542.3
133.00	133.00		Zero Out:	Stream #3	575.4
					0.0
133.00	133.00		Stream #2 Added to:	Stream #1	17174.7
17.500					18717.0
133.00	133.00		Zero Out:	Stream #2	1542.3
					0.0
133.00	134.00		Convex Routing:	Stream #1	18717.0
17.667					18702.6
133.00	134.00		Subarea (UH) Added to	Stream #2	0.0
16.417					664.4
134.00	134.00		Stream #2 Added to:	Stream #1	18702.6
17.667					19013.4

134.00	134.00		Zero Out:	Stream #2	664.4	0.0
13500.00	134.00		Subarea (UH) Added to	Stream #2	0.0	1043.8
17.333						
134.00	134.00		Stream #2 Added to:	Stream #1	19013.4	20023.5
17.583						
134.00	134.00		Zero Out:	Stream #2	1043.8	0.0
134.00	137.00		Convex Routing:	Stream #1	20023.5	20005.5
17.750						
134.00	137.00		Subarea (UH) Added to	Stream #2	0.0	453.7
16.500						
137.00	137.00		Stream #2 Added to:	Stream #1	20005.5	20227.1
17.750						
137.00	137.00		Zero Out:	Stream #2	453.7	0.0
137.00	137.00		View:	Stream #1		20227.1
17.750	17003.66	3				

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 138 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 50-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV50138C.DAT
TIME/DATE OF STUDY: 15:58 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.043 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.400
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.290 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.592
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.79; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.252
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.244 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.326
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392

```

3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

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*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.475
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

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SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.411 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.623  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.363 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.517  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.378 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.601
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.255 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.337
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.821 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.538  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00          0.00
      1              413.00        413.00
      2              1897.00       1613.00
      3              4682.00       3013.00
      4              6819.00       4013.00
      5              8100.00       4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         1.50    0.01    0.002
      3         2.00    0.02    1.900
      4         4.00    0.03    16.100
      5         4.30    0.05    18.200
      6         5.00   314.00   23.200
      7         6.00  1306.00  30.300
      8         7.00  2847.00  39.100
      9         8.00  4942.00  47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00    0.00    0.000
      2         0.99    2.90    0.900
      3         1.99   11.38    2.900
      4         3.99   19.63   10.300
      5         5.99   25.19   20.700
      6         7.99   29.71   31.700
      7         9.99   33.62   43.500
      8        10.99   35.49   49.700
      9        11.99  313.49  56.400
     10        12.99  894.27  63.100
     11        13.99 1748.55  69.900
     12        15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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,

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.625 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.383  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392  
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2  
-----



>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00
CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.360 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.433
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.294 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.431
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00
UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00
CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*
FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.413 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.441
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.515 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.267; LOW LOSS FRACTION = 0.495
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

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\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

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UPSTREAM TIME (2) TO   NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE   NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)	FOOTNOTES
--	--	------------------------------	------------------------	--------------------------	-----------

10100.00	119.00	Subarea (UH) Added to Stream #1	0.0	16471.8	
18.083					
119.00	126.00	Convex Routing: Stream #1	16471.8	16389.1	
18.167					
40400.00	126.00	Subarea (UH) Added to Stream #2	0.0	291.3	
16.333					
126.00	126.00	Stream #2 Added to: Stream #1	16389.1	16476.8	
18.167					
126.00	126.00	Zero Out: Stream #2	291.3	0.0	
600.00	126.00	Subarea (UH) Added to Stream #2	0.0	44.3	
16.333					
126.00	126.00	Stream #2 Added to: Stream #1	16476.8	16488.9	
18.167					
126.00	126.00	Zero Out: Stream #2	44.3	0.0	
126.00	12720.50	Convex Routing: Stream #1	16488.9	16472.5	
18.250					
320.00	331.00	Subarea (UH) Added to Stream #2	0.0	375.4	
16.333					
400.00	331.00	Subarea (UH) Added to Stream #3	0.0	245.9	
16.333					
390.00	331.00	Subarea (UH) Added to Stream #4	0.0	42.3	
16.417					
331.00	331.00	Stream #4 Added to: Stream #2	375.4	414.4	
16.333					
331.00	331.00	Zero Out: Stream #4	42.3	0.0	
331.00	331.00	Stream #3 Added to: Stream #2	414.4	660.3	
16.333					
331.00	331.00	Zero Out: Stream #3	245.9	0.0	
331.00	331.00	Flow-Through Basin: Stream #2	660.3	470.9	
16.500	73.26				
331.00	12720.50	Stream #2 Added to: Stream #1	16472.5	16755.0	
18.250					
12720.50	12720.50	Zero Out: Stream #2	470.9	0.0	

12720.50	127.00	Convex Routing: Stream #1	16755.0	16721.8	
18.333					
12710.00	127.00	Subarea (UH) Added to Stream #2	0.0	213.7	
16.500					
127.00	127.00	Stream #2 Added to: Stream #1	16721.8	16792.0	
17.417					
127.00	127.00	Zero Out: Stream #2	213.7	0.0	
50150.00	127.00	Subarea (UH) Added to Stream #2	0.0	368.3	
16.417					
127.00	127.00	Stream #2 Added to: Stream #1	16792.0	16994.6	
17.250					
127.00	127.00	Zero Out: Stream #2	368.3	0.0	
127.00	129.00	Convex Routing: Stream #1	16994.6	16983.8	
17.500					
50300.00	129.00	Subarea (UH) Added to Stream #2	0.0	204.4	
16.417					
129.00	129.00	Stream #2 Added to: Stream #1	16983.8	17075.4	
17.417					
129.00	129.00	Zero Out: Stream #2	204.4	0.0	
210.00	221.00	Subarea (UH) Added to Stream #2	0.0	113.3	
16.333					
221.00	221.00	Flowby Basin Model: Stream #2	113.3	19.3	
16.333					
221.00	223.00	Flow-Through Basin: Stream #2	19.3	15.8	
17.250	3.98				
221.00	222.00	Flow-Through Basin: Stream #5	94.0	25.8	
18.000	14.94				
223.00	222.00	Stream #5 Added to: Stream #2	15.8	41.3	
17.833					
222.00	222.00	Zero Out: Stream #5	25.8	0.0	
222.00	129.00	Stream #2 Added to: Stream #1	17075.4	17116.1	
17.417					
129.00	129.00	Zero Out: Stream #2	41.3	0.0	
129.00	133.00	Convex Routing: Stream #1	17116.1	17113.0	
17.500					
13010.00	132.00	Subarea (UH) Added to Stream #2	0.0	1278.8	
16.833					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV50138C.DAT ]
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-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM|                                     |UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS |PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----+-----+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1278.8    1113.1|
16.833 |          |          |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 165.7     156.4|
17.083 | 20.69|          |
| 132.00    132.00| Split Hydrograph:   Stream #3| 156.4     78.2|
17.083 |          |          |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 78.2      17.7|
18.833 | 8.56|          |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1113.1    1122.8|
16.833 |          |          |
-----+-----+-----+-----+
| 132.00    132.00| Zero Out:           Stream #3| 17.7      0.0|
|          |          |
| 132.00    132.00| Flow-Through Basin:  Stream #4| 78.2      18.2|
18.833 | 8.68|          |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1122.8    1130.5|
16.833 |          |          |
| 132.00    132.00| Zero Out:           Stream #4| 18.2      0.0|
|          |          |
| 132.00    13305.00| Convex Routing:     Stream #2| 1130.5    1118.2|
17.333 |          |          |
-----+-----+-----+-----+
| 13305.00    133.00| Convex Routing:     Stream #2| 1118.2    1106.2|
17.583 |          |          |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0       571.1|
16.667 |          |          |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 1106.2    1533.6|
17.500 |          |          |
| 133.00    133.00| Zero Out:           Stream #3| 571.1     0.0|
|          |          |
| 133.00    133.00| Stream #2 Added to:  Stream #1| 17113.0   18646.6|
17.500 |          |          |
-----+-----+-----+-----+
| 133.00    133.00| Zero Out:           Stream #2| 1533.6     0.0|
|          |          |
| 133.00    134.00| Convex Routing:     Stream #1| 18646.6   18632.2|
17.667 |          |          |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0       658.3|
16.417 |          |          |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 18632.2   18943.6|
17.667 |          |          |

```

	134.00	134.00	Zero Out:	Stream #2	658.3	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	1037.4
17.333						
	134.00	134.00	Stream #2 Added to:	Stream #1	18943.6	19950.5
17.583						
	134.00	134.00	Zero Out:	Stream #2	1037.4	0.0
	134.00	137.00	Convex Routing:	Stream #1	19950.5	19932.2
17.750						
	134.00	137.00	Subarea (UH) Added to Stream #2		0.0	449.6
16.500						
+-----+						
	137.00	137.00	Stream #2 Added to:	Stream #1	19932.2	20154.3
17.750						
	137.00	137.00	Zero Out:	Stream #2	449.6	0.0
	137.00	138.00	Convex Routing:	Stream #1	20154.3	20136.5
17.833						
	137.00	138.00	Subarea (UH) Added to Stream #2		0.0	406.4
16.583						
	138.00	138.00	Stream #2 Added to:	Stream #1	20136.5	20353.5
17.833						
+-----+						
	138.00	138.00	Zero Out:	Stream #2	406.4	0.0
	138.00	138.00	View:	Stream #1		20353.5
17.833		17199.95	3			
+-----+						
+-----+						
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL						
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM						
+-----+						
+-----+						

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RMV PA-3 ROMP AMENDMENT 2022 - NODE 139 \*
\* PHASE NO PA45 REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL \*
\* 50-YR EV AUG 2023 ROKAMOTO \*

FILE NAME: EV50139C.DAT
TIME/DATE OF STUDY: 15:57 08/10/2023

\*\* INPUT SUMMARY \*\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 10100.00 TO NODE 119.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<

WATERSHED AREA = 49511.801 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 2.043 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.400
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.46; 30-MINUTE = 0.87; 1-HOUR = 1.21
3-HOUR = 2.28; 6-HOUR = 3.40; 24-HOUR = 5.99
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 119.00 TO NODE 126.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 341.63; DOWNSTREAM ELEVATION (FT) = 286.00

CHANNEL LENGTH (FT) = 6204.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*

FLOW PROCESS FROM NODE 40400.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 801.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.290 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.296; LOW LOSS FRACTION = 0.592
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.79; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 600.00 TO NODE 126.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 125.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 0.295 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.291; LOW LOSS FRACTION = 0.638
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*

FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<

```

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 126.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 126.00 TO NODE 12720.50 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 286.00; DOWNSTREAM ELEVATION (FT) = 258.00
CHANNEL LENGTH (FT) = 4077.05 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 320.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 712.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.289 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.100; LOW LOSS FRACTION = 0.252
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 400.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 462.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.244 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.135; LOW LOSS FRACTION = 0.326
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391

```

3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 390.00 TO NODE 331.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<
=====
WATERSHED AREA = 117.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.366 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.283; LOW LOSS FRACTION = 0.475
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 331.00 TO NODE 331.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000

```

SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	0.01	2.000
3	2.00	0.02	6.000
4	3.00	0.03	13.000
5	4.00	0.04	21.000
6	5.00	0.05	30.000
7	6.00	0.07	41.000
8	7.00	62.00	53.000
9	8.00	279.00	66.000
10	9.00	623.00	79.000
11	10.00	930.00	92.000
12	11.00	1083.00	105.000
13	12.00	1210.00	119.000
14	13.00	1319.00	133.000
15	14.00	1415.00	148.000
16	15.00	1504.00	162.000
17	16.00	1799.00	177.000
18	17.00	2767.00	193.000
19	18.00	4110.00	208.000
20	19.00	5737.00	224.000

\*\*\*\*\*  
FLOW PROCESS FROM NODE 331.00 TO NODE 12720.50 IS CODE = 7  
-----  
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 12720.50 IS CODE = 6  
-----  
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12720.50 TO NODE 127.00 IS CODE = 5.2  
-----  
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 258.00; DOWNSTREAM ELEVATION (FT) = 240.00  
CHANNEL LENGTH (FT) = 3114.00 MANNING'S FACTOR = 0.030

CONSTANT LOSS RATE (CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 12710.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 711.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.411 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.293; LOW LOSS FRACTION = 0.623  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 50150.00 TO NODE 127.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<<  
=====

WATERSHED AREA = 1063.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.363 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.295; LOW LOSS FRACTION = 0.517  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<  
=====



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*****
FLOW PROCESS FROM NODE 127.00 TO NODE 127.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 127.00 TO NODE 129.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION(FT) = 240.00; DOWNSTREAM ELEVATION(FT) = 213.00
CHANNEL LENGTH(FT) = 4905.42 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====

*****
FLOW PROCESS FROM NODE 50300.00 TO NODE 129.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 634.200 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.378 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.601
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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FLOW PROCESS FROM NODE 210.00 TO NODE 221.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 213.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.255 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.128; LOW LOSS FRACTION = 0.337
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
          DATA PAIR          Qcenter          Qpass
          NUMBER              (CFS)              (CFS)
          -                   0.00              0.00
          1                   25.00             13.59
          2                   75.00             16.84
          3                   100.00            18.46
          4                   250.00            28.22
          5                   550.00            47.73
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
=====

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 2.070
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
          INTERVAL          DEPTH          OUTFLOW          STORAGE
          NUMBER            (FT)            (CFS)            (AF)
          1                  0.00              0.00             0.000
          2                  1.00              0.01             0.310
          3                  2.00              0.83             1.240
          4                  3.00              5.60             2.600
          5                  4.00             16.88             4.130

```

6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

\*\*\*\*\*  
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1  
-----

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<  
-----

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5  
THROUGH A FLOW-THROUGH DETENTION BASIN.  
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
DEAD STORAGE (AF) = 0.000  
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000  
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000  
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.750
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

\*\*\*\*\*  
FLOW PROCESS FROM NODE 223.00 TO NODE 222.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 222.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 222.00 TO NODE 129.00 IS CODE = 7  
-----

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 129.00 IS CODE = 6  
-----

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 129.00 TO NODE 133.00 IS CODE = 5.2  
-----

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00  
UPSTREAM ELEVATION (FT) = 213.00; DOWNSTREAM ELEVATION (FT) = 212.00  
CHANNEL LENGTH (FT) = 1389.52 MANNING'S FACTOR = 0.030  
CONSTANT LOSS RATE (CFS) = 0.00  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<  
-----

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.821 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.538  
SPECIFIED PEAK RAINFALL DEPTHS (INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
-----
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)          (CFS)
      -              0.00           0.00
      1              413.00         413.00
      2              1897.00        1613.00
      3              4682.00        3013.00
      4              6819.00        4013.00
      5              8100.00        4613.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER    (FT)   (CFS)   (AF)
      1          0.00    0.00    0.000
      2          1.50    0.01    0.002
      3          2.00    0.02    1.900
      4          4.00    0.03   16.100
      5          4.30    0.05   18.200
      6          5.00   314.00  23.200
      7          6.00  1306.00  30.300
      8          7.00  2847.00  39.100
      9          8.00  4942.00  47.800
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

```

```

-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER    (FT)   (CFS)   (AF)
      1          0.00    0.00    0.000
      2          0.99    2.90    0.900
      3          1.99   11.38    2.900
      4          3.99   19.63   10.300
      5          5.99   25.19   20.700
      6          7.99   29.71   31.700
      7          9.99   33.62   43.500
      8         10.99   35.49   49.700
      9         11.99  313.49  56.400
     10         12.99  894.27  63.100
     11         13.99 1748.55  69.900
     12         15.99 4306.91  84.100
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 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 = 3.00  
UPSTREAM ELEVATION(FT) = 315.00; DOWNSTREAM ELEVATION(FT) = 212.00  
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 1713.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.625 HOURS  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.225; LOW LOSS FRACTION = 0.383  
SPECIFIED PEAK RAINFALL DEPTHS(INCH):  
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06  
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12  
\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391  
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 5.00 UPSTREAM ELEVATION(FT) = 212.00; DOWNSTREAM ELEVATION(FT) = 170.00 CHANNEL LENGTH(FT) = 6461.31 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 133.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1705.800 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.360 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.245; LOW LOSS FRACTION = 0.433 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06 3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391 3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 13500.00 TO NODE 134.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 3859.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 1.294 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.284; LOW LOSS FRACTION = 0.431 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06 3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391 3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 134.00 IS CODE = 6 \*\*\*\*\*

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 5.2 \*\*\*\*\*

>>>>MODEL CHANNEL ROUTING OF STREAM #1 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) = 200.00 CHANNEL Z = 4.00 UPSTREAM ELEVATION(FT) = 170.00; DOWNSTREAM ELEVATION(FT) = 135.00 CHANNEL LENGTH(FT) = 6064.09 MANNING'S FACTOR = 0.030 CONSTANT LOSS RATE(CFS) = 0.00

\*\*\*\*\* FLOW PROCESS FROM NODE 134.00 TO NODE 137.00 IS CODE = 1 \*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 1240.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE \*USER ENTERED "LAG" TIME = 0.413 HOURS VALLEY(DEVELOPED) S-GRAPH SELECTED MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.441 SPECIFIED PEAK RAINFALL DEPTHS(INCH): 5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06 3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12 \*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS: 5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391 3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

\*\*\*\*\* FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 7 \*\*\*\*\*

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

```

=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 135.00; DOWNSTREAM ELEVATION(FT) = 119.70
CHANNEL LENGTH(FT) = 4643.67 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 1303.500 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.515 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.267; LOW LOSS FRACTION = 0.495
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 138.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====

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```

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #1 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 = 4.00
UPSTREAM ELEVATION(FT) = 119.70; DOWNSTREAM ELEVATION(FT) = 100.00
CHANNEL LENGTH(FT) = 3107.78 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
WATERSHED AREA = 428.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.244 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.207; LOW LOSS FRACTION = 0.487
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.37; 30-MINUTE = 0.80; 1-HOUR = 1.06
3-HOUR = 1.78; 6-HOUR = 2.47; 24-HOUR = 4.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7
-----
>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6
-----
>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<
=====

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\* AES FLOODSCx PROGRAM RESULTS SUMMARY \*

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UPSTREAM TIME (2)	DOWNSTREAM TIME (2)	MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
10100.00	119.00		Subarea (UH) Added to Stream #1	0.0	16450.1
18.083					
119.00	126.00		Convex Routing: Stream #1	16450.1	16367.7
18.167					
40400.00	126.00		Subarea (UH) Added to Stream #2	0.0	290.1
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	16367.7	16455.5
18.167					
126.00	126.00		Zero Out: Stream #2	290.1	0.0
600.00	126.00		Subarea (UH) Added to Stream #2	0.0	44.1
16.333					
126.00	126.00		Stream #2 Added to: Stream #1	16455.5	16467.7
18.167					
126.00	126.00		Zero Out: Stream #2	44.1	0.0
126.00	12720.50		Convex Routing: Stream #1	16467.7	16451.7
18.250					
320.00	331.00		Subarea (UH) Added to Stream #2	0.0	374.3
16.333					
400.00	331.00		Subarea (UH) Added to Stream #3	0.0	245.1
16.333					
390.00	331.00		Subarea (UH) Added to Stream #4	0.0	42.1
16.417					
331.00	331.00		Stream #4 Added to: Stream #2	374.3	413.2
16.333					
331.00	331.00		Zero Out: Stream #4	42.1	0.0
331.00	331.00		Stream #3 Added to: Stream #2	413.2	658.3
16.333					
331.00	331.00		Zero Out: Stream #3	245.1	0.0
331.00	331.00		Flow-Through Basin: Stream #2	658.3	469.8
16.500	73.22				
331.00	12720.50		Stream #2 Added to: Stream #1	16451.7	16734.3
18.250					
12720.50	12720.50		Zero Out: Stream #2	469.8	0.0

12720.50	127.00		Convex Routing: Stream #1	16734.3	16701.0
18.333					
12710.00	127.00		Subarea (UH) Added to Stream #2	0.0	212.9
16.500					
127.00	127.00		Stream #2 Added to: Stream #1	16701.0	16773.7
17.417					
127.00	127.00		Zero Out: Stream #2	212.9	0.0
50150.00	127.00		Subarea (UH) Added to Stream #2	0.0	367.0
16.417					
127.00	127.00		Stream #2 Added to: Stream #1	16773.7	16977.7
17.250					
127.00	127.00		Zero Out: Stream #2	367.0	0.0
127.00	129.00		Convex Routing: Stream #1	16977.7	16965.9
17.500					
50300.00	129.00		Subarea (UH) Added to Stream #2	0.0	203.6
16.417					
129.00	129.00		Stream #2 Added to: Stream #1	16965.9	17058.2
17.417					
129.00	129.00		Zero Out: Stream #2	203.6	0.0
210.00	221.00		Subarea (UH) Added to Stream #2	0.0	112.9
16.333					
221.00	221.00		Flowby Basin Model: Stream #2	112.9	19.3
16.333					
221.00	223.00		Flow-Through Basin: Stream #2	19.3	15.8
17.250	3.98				
221.00	222.00		Flow-Through Basin: Stream #5	93.6	25.8
18.000	14.93				
223.00	222.00		Stream #5 Added to: Stream #2	15.8	41.3
17.833					
222.00	222.00		Zero Out: Stream #5	25.8	0.0
222.00	129.00		Stream #2 Added to: Stream #1	17058.2	17098.8
17.417					
129.00	129.00		Zero Out: Stream #2	41.3	0.0
129.00	133.00		Convex Routing: Stream #1	17098.8	17095.7
17.500					
13010.00	132.00		Subarea (UH) Added to Stream #2	0.0	1275.6
16.833					

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL  
 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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+-----+
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV50139C.DAT ]
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+-----+
|UPSTREAM  DOWNSTREAM|                                     | UPSTREAM  DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS)  PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1275.6    1110.5|
16.833 |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 165.1     155.9|
17.083 | 20.69|
| 132.00    132.00| Split Hydrograph:   Stream #3| 155.9     77.9|
17.083 |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 77.9      17.7|
18.833 | 8.54|
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1110.5    1120.1|
16.833 |
+-----+
| 132.00    132.00| Zero Out:           Stream #3| 17.7      0.0|
|
| 132.00    132.00| Flow-Through Basin:  Stream #4| 77.9      18.2|
18.833 | 8.66|
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1120.1    1127.9|
16.833 |
| 132.00    132.00| Zero Out:           Stream #4| 18.2      0.0|
|
| 132.00    13305.00| Convex Routing:     Stream #2| 1127.9    1115.6|
17.333 |
+-----+
| 13305.00    133.00| Convex Routing:     Stream #2| 1115.6    1103.7|
17.583 |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0       569.7|
16.667 |
| 133.00    133.00| Stream #3 Added to:  Stream #2| 1103.7    1530.7|
17.500 |
| 133.00    133.00| Zero Out:           Stream #3| 569.7     0.0|
|
| 133.00    133.00| Stream #2 Added to:  Stream #1| 17095.7   18626.3|
17.500 |
+-----+
| 133.00    133.00| Zero Out:           Stream #2| 1530.7     0.0|
|
| 133.00    134.00| Convex Routing:     Stream #1| 18626.3   18611.9|
17.667 |
| 133.00    134.00| Subarea (UH) Added to Stream #2| 0.0       656.2|
16.417 |
| 134.00    134.00| Stream #2 Added to:  Stream #1| 18611.9   18923.5|
17.667 |

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	134.00	134.00	Zero Out:	Stream #2	656.2	0.0
+-----+						
	13500.00	134.00	Subarea (UH) Added to Stream #2		0.0	1035.5
17.333						
	134.00	134.00	Stream #2 Added to:	Stream #1	18923.5	19929.4
17.583						
	134.00	134.00	Zero Out:	Stream #2	1035.5	0.0
	134.00	137.00	Convex Routing:	Stream #1	19929.4	19911.0
17.750						
	134.00	137.00	Subarea (UH) Added to Stream #2		0.0	448.2
16.500						
+-----+						
	137.00	137.00	Stream #2 Added to:	Stream #1	19911.0	20133.2
17.750						
	137.00	137.00	Zero Out:	Stream #2	448.2	0.0
	137.00	138.00	Convex Routing:	Stream #1	20133.2	20115.7
17.833						
	137.00	138.00	Subarea (UH) Added to Stream #2		0.0	405.1
16.583						
	138.00	138.00	Stream #2 Added to:	Stream #1	20115.7	20332.9
17.833						
+-----+						
	138.00	138.00	Zero Out:	Stream #2	405.1	0.0
	138.00	139.00	Convex Routing:	Stream #1	20332.9	20327.8
17.917						
	138.00	139.00	Subarea (UH) Added to Stream #2		0.0	198.7
16.333						
	139.00	139.00	Stream #2 Added to:	Stream #1	20327.8	20391.3
17.917						
	139.00	139.00	Zero Out:	Stream #2	198.7	0.0
+-----+						
	139.00	139.00	View:	Stream #1		20391.3
17.917		17280.20	3			
+-----+						
+-----+						
Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL						
3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM						
+-----+						

END OF FLOODSCx ROUTING ANALYSIS