
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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 100-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV0033CC.DAT
TIME/DATE OF STUDY: 14:56 05/15/2023

** 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 = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.376
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

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 = 0.183 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.374
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 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<<<<

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FLOW PROCESS FROM NODE 12603.00 TO NODE 12603.00 IS CODE = 6
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>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<
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*****
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
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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 = 0.215 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.434
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 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:

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| 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 |

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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 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 = 0.289 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.711
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 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
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>>>>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 = 0.308; 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 = 0.239 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
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 = 0.359 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

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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.402 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.584
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

>>>>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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.217; LOW LOSS FRACTION = 0.469
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.197 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.578
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
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>>>>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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
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>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
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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 | 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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
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>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
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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 = 0.308; 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.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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

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

=====

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV0033CC.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 | 19376.4 |
| 18.000 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 19376.4 | 19237.4 |
| 18.000 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 118.9 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 118.9 | 72.2 |
| 16.417 | 14.03 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 19237.4 | 19277.2 |
| 18.000 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 72.2 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 19277.2 | 19259.1 |
| 18.083 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 315.1 |
| 16.250 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 315.1 | 249.7 |
| 16.417 | 19.70 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 19259.1 | 19357.8 |
| 18.083 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 249.7 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 94.1 |
| 16.333 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 19357.8 | 19377.0 |
| 18.083 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 94.1 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 19377.0 | 19366.0 |
| 18.167 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 443.3 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 290.8 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 51.5 |
| 16.417 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 443.3 | 490.7 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 51.5 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 490.7 | 781.5 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 290.8 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 781.5 | 550.4 |
| 16.500 | 76.27 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 19366.0 | 19693.4 |
| 18.167 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 550.4 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 19693.4 | 19656.6 |
| 18.250 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 347.9 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 19656.6 | 19768.4 |
| 18.250 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 347.9 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 19768.4 | 19747.3 |
| 18.250 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 550.5 |
| 16.333 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 550.5 | 101.0 |
| 18.583 | 143.65 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 101.0 | 101.0 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 19747.3 | 19847.6 |
| 18.250 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 101.0 | 0.0 |
| | | | | |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 19847.6 | 19829.0 |
| 18.333 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 238.7 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 19829.0 | 19861.5 |
| 18.333 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 238.7 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 134.1 |
| 16.333 | | | | |

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: [EV0033CC.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 |
-----+-----+-----+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 134.1    20.7|
16.333 | | |
| 221.00    223.00| Flow-Through Basin:  Stream #2| 20.7     16.5|
17.250 | 4.08| |
| 221.00    222.00| Flow-Through Basin:  Stream #5| 113.5    38.3|
17.417 | 17.05| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 16.5     54.8|
17.417 | | |
| 222.00    222.00| Zero Out:           Stream #5| 38.3     0.0|
| | |
-----+-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1| 19861.5  19912.2|
18.333 | | |
| 129.00    129.00| Zero Out:           Stream #2| 54.8     0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 19912.2  19902.0|
17.500 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0     1582.0|
16.833 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1582.0   1358.3|
16.833 | | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 223.7    208.3|
17.083 | 21.54| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 208.3    104.2|
17.083 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 104.2    22.0|
18.917 | 14.71| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1358.3   1373.7|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #3| 22.0     0.0|
| | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #4| 104.2    22.1|
18.917 | 14.85| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1373.7   1388.6|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #4| 22.1     0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1388.6   1352.0|
17.333 | | |

```

| | | | | | |
|---|----------|---------------------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1352.0 | 1339.6 |
| 17.500 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | | 0.0 | 681.2 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1339.6 | 1840.0 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 681.2 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 19902.0 | 21742.0 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1840.0 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 133.00 | View: | Stream #1 | | 21742.0 |
| 17.500 | 18052.44 | 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 133T *
* 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, 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 = 0.556 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 #, PEAK (HR), UPSTREAM, DOWNSTREAM, MAX. STORAGE, HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Includes summary of stream processes and peak values.

|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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 100-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV0033UC.DAT
TIME/DATE OF STUDY: 14:57 05/15/2023

** 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 = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.376
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

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 = 0.183 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.374
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 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 = 0.215 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.434
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 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 = 0.289 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.711
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<<<<
=====

*****
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 = 0.328; 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 = 0.239 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
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 = 0.359 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
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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.402 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.584
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.217; LOW LOSS FRACTION = 0.469
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

 FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
 UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
 CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
 =====

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

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

 FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
 CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.197 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.578
 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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 |

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 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
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>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
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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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*****

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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<<<<<

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<<<<<

Table with columns: TIME(2) TO PEAK (HR), NODE #, HYDROLOGIC/HYDRAULIC PROCESS, UPSTREAM PEAK (CFS), DOWNSTREAM PEAK (CFS). Rows include various routing events like 'Subarea (UH) Added to Stream #1', 'Convex Routing', and 'Flow-Through Basin'.

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|---------|---------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 54.7 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 519.0 | 827.3 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 308.4 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 827.3 | 574.9 |
| 16.500 | | 77.20 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 19844.3 | 20169.7 |
| 18.167 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 574.9 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 20169.7 | 20128.2 |
| 18.250 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 371.0 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 20128.2 | 20238.0 |
| 18.250 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 371.0 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 20238.0 | 20219.7 |
| 18.250 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 586.2 |
| 16.333 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 586.2 | 102.0 |
| 18.583 | | 145.55 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 102.0 | 102.0 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 20219.7 | 20321.1 |
| 18.250 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 102.0 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 20321.1 | 20299.4 |
| 18.333 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 256.5 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 20299.4 | 20331.7 |
| 18.333 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 256.5 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 142.3 |
| 16.333 | | | | | | |

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: [EV0033UC.DAT]

Page: 2 of |

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

| | | | | | |
|--------|--------|---------------------|-----------|-------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 142.3 | 21.2 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 21.2 | 16.6 |
| 17.250 | 4.10 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 121.0 | 40.6 |
| 17.417 | 17.29 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 16.6 | 57.1 |
| 17.417 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 40.6 | 0.0 |
| | | | | | |

| | | | | | |
|--------|----------|---------------------|-----------|---------|---------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 20331.7 | 20383.0 |
| 18.333 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 57.1 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 20383.0 | 20348.0 |
| 18.417 | | | | | |
| 133.00 | 133.00 | View: | Stream #1 | | 20348.0 |
| 18.417 | 16898.79 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 100-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV0034CC.DAT
TIME/DATE OF STUDY: 01:43 08/11/2023

** 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 = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.376
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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 = 0.183 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.374
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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:

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 1 | 0.00 | 0.00 | 0.000 |
| 2 | 1.00 | 0.80 | 1.520 |
| 3 | 2.00 | 1.30 | 3.150 |
| 4 | 3.00 | 1.60 | 4.900 |
| 5 | 4.00 | 1.80 | 6.790 |
| 6 | 5.00 | 2.10 | 8.810 |
| 7 | 6.00 | 2.30 | 10.970 |
| 8 | 7.00 | 47.90 | 13.270 |
| 9 | 8.00 | 131.60 | 15.720 |
| 10 | 9.00 | 241.70 | 18.320 |
| 11 | 10.00 | 372.80 | 21.060 |

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 = 0.215 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.434
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
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 = 0.289 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.711
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.239 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.359 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.402 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.584
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.217; LOW LOSS FRACTION = 0.469
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

FLOW PROCESS FROM NODE 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.197 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.578
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.252 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

```

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 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
-----

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

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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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*****

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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<<<<<

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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.311 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.431
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
 3-HOUR = 0.740; 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: [EV0034CC.DAT ]
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+-----+
|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 18989.8|
18.000 |
| 119.00 12603.00| Convex Routing: Stream #1| 18989.8 18855.9|
18.000 |
| 810.00 809.00| Subarea (UH) Added to Stream #2| 0.0 113.4|
16.250 |
| 809.00 12603.00| Flow-Through Basin: Stream #2| 113.4 69.2|
16.417 | 13.94|
| 12603.00 12603.00| Stream #2 Added to: Stream #1| 18855.9 18895.9|
18.000 |
+-----+
| 12603.00 12603.00| Zero Out: Stream #2| 69.2 0.0|
|
| 12603.00 126.00| Convex Routing: Stream #1| 18895.9 18880.9|
18.083 |
| 920.00 905.00| Subarea (UH) Added to Stream #2| 0.0 300.1|
16.250 |
| 905.00 126.00| Flow-Through Basin: Stream #2| 300.1 236.8|
16.417 | 19.55|
| 126.00 126.00| Stream #2 Added to: Stream #1| 18880.9 18981.1|
18.083 |
+-----+
| 126.00 126.00| Zero Out: Stream #2| 236.8 0.0|
|
| 600.00 126.00| Subarea (UH) Added to Stream #2| 0.0 89.0|
16.333 |
| 126.00 126.00| Stream #2 Added to: Stream #1| 18981.1 19000.7|
18.083 |
| 126.00 126.00| Zero Out: Stream #2| 89.0 0.0|
|
| 126.00 12720.50| Convex Routing: Stream #1| 19000.7 18990.3|
18.167 |
+-----+
| 320.00 331.00| Subarea (UH) Added to Stream #2| 0.0 425.9|
16.333 |
| 400.00 331.00| Subarea (UH) Added to Stream #3| 0.0 278.6|
16.333 |
| 390.00 331.00| Subarea (UH) Added to Stream #4| 0.0 49.2|
16.417 |
| 331.00 331.00| Stream #4 Added to: Stream #2| 425.9 471.4|
16.333 |

```

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|---------|---------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 49.2 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 471.4 | 750.0 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 278.6 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 750.0 | 532.6 |
| 16.500 | | 75.60 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 18990.3 | 19319.5 |
| 18.167 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 532.6 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 19319.5 | 19286.7 |
| 18.250 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 331.9 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 19286.7 | 19400.3 |
| 18.250 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 331.9 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 19400.3 | 19380.5 |
| 17.333 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 526.0 |
| 16.333 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 526.0 | 100.2 |
| 18.583 | | 142.22 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 100.2 | 100.2 |
| 18.750 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 19380.5 | 19474.9 |
| 17.333 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 100.2 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 19474.9 | 19470.5 |
| 17.417 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 226.3 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 19470.5 | 19533.6 |
| 17.417 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 226.3 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 128.5 |
| 16.333 | | | | | | |

[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: [EV0034CC.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) |
|--|--|---|------------------------|--------------------------|
|--|--|---|------------------------|--------------------------|

| | | | | | |
|--------|--------|---------------------|-----------|-------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 128.5 | 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 | 108.2 | 36.8 |
| 17.500 | 16.85 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 16.4 | 53.1 |
| 17.500 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 36.8 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 19533.6 | 19586.7 |
| 17.417 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 53.1 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 19586.7 | 19578.9 |
| 17.500 | | | | | |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1519.1 |
| 16.833 | | | | | |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 1519.1 | 1307.4 |
| 16.833 | | | | | |

| | | | | | |
|--------|--------|---------------------|-----------|--------|--------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 211.7 | 197.4 |
| 17.083 | 21.36 | | | | |
| 132.00 | 132.00 | Split Hydrograph: | Stream #3 | 197.4 | 98.7 |
| 17.083 | | | | | |
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 98.7 | 21.7 |
| 18.917 | 14.10 | | | | |
| 132.00 | 132.00 | Stream #3 Added to: | Stream #2 | 1307.4 | 1322.5 |
| 16.833 | | | | | |
| 132.00 | 132.00 | Zero Out: | Stream #3 | 21.7 | 0.0 |

| | | | | | |
|--------|----------|---------------------|-----------|--------|--------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #4 | 98.7 | 21.7 |
| 18.917 | 14.25 | | | | |
| 132.00 | 132.00 | Stream #4 Added to: | Stream #2 | 1322.5 | 1336.9 |
| 16.833 | | | | | |
| 132.00 | 132.00 | Zero Out: | Stream #4 | 21.7 | 0.0 |
| | | | | | |
| 132.00 | 13305.00 | Convex Routing: | Stream #2 | 1336.9 | 1304.4 |
| 17.333 | | | | | |

| | | | | | |
|----------|--------|-----------------|-----------|--------|--------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1304.4 | 1290.6 |
| 17.583 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|---------|---------|
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 656.8 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1290.6 | 1785.9 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 656.8 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 19578.9 | 21364.9 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1785.9 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 21364.9 | 21341.7 |
| 17.667 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 775.0 |
| 16.333 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 21341.7 | 21680.7 |
| 17.583 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 775.0 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1192.1 |
| 17.250 | | | | | |

| | | | | | |
|--------|----------|---------------------|-----------|---------|---------|
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 21680.7 | 22835.0 |
| 17.583 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 1192.1 | 0.0 |
| | | | | | |
| 134.00 | 134.00 | View: | Stream #1 | | 22835.0 |
| 17.583 | 19121.33 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 100-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV0034UC.DAT
TIME/DATE OF STUDY: 01:44 08/11/2023

** 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 = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.376
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 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 = 0.183 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.374
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 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 = 0.215 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.434
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 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 = 0.289 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.711
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 = 0.239 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 = 0.359 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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.402 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.584
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.217; LOW LOSS FRACTION = 0.469
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.197 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.578
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<<<<<

```

=====
*****
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 NUMBER | Qcenter (CFS) | Qpass (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 |

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*****

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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<<<<<

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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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 = 0.304; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.311 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.431
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<<<<

=====

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV0034UC.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) |
|--|--|---|------------------------|--------------------------|
|--|--|---|------------------------|--------------------------|

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 19257.0 |
| 18.000 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 19257.0 | 19120.2 |
| 18.000 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 116.9 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 116.9 | 71.2 |
| 16.417 | 13.99 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 19120.2 | 19160.0 |
| 18.000 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 71.2 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 19160.0 | 19142.8 |
| 18.083 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 309.7 |
| 16.250 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 309.7 | 245.0 |
| 16.417 | 19.64 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 19142.8 | 19242.0 |
| 18.083 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 245.0 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 92.2 |
| 16.333 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 19242.0 | 19261.3 |
| 18.083 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 92.2 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 19261.3 | 19250.6 |
| 18.167 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 437.0 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 286.5 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 50.7 |
| 16.417 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 437.0 | 483.7 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 50.7 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 483.7 | 770.3 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 286.5 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 770.3 | 544.3 |
| 16.500 | 76.04 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 19250.6 | 19578.5 |
| 18.167 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 544.3 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 19578.5 | 19543.0 |
| 18.250 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 342.4 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 19543.0 | 19655.4 |
| 18.250 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 342.4 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 19655.4 | 19633.1 |
| 18.250 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 541.6 |
| 16.333 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 541.6 | 100.8 |
| 18.583 | 143.22 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 100.8 | 100.7 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 19633.1 | 19733.1 |
| 18.250 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 100.7 | 0.0 |
| | | | | |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 19733.1 | 19715.6 |
| 18.333 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 234.3 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 19715.6 | 19757.9 |
| 17.417 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 234.3 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 132.1 |
| 16.333 | | | | |

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: [EV0034UC.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 |
-----+-----+-----+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 132.1    20.5|
16.333 | | |
| 221.00    223.00| Flow-Through Basin:  Stream #2| 20.5    16.5|
17.250 | 4.08| |
| 221.00    222.00| Flow-Through Basin:  Stream #5| 111.6    37.8|
17.500 | 16.99| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 16.5    54.2|
17.417 | | |
| 222.00    222.00| Zero Out:           Stream #5| 37.8    0.0|
| | |
-----+-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1| 19757.9  19812.1|
17.417 | | |
| 129.00    129.00| Zero Out:           Stream #2| 54.2    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 19812.1  19805.9|
17.500 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0    1560.8|
16.833 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1560.8   1341.1|
16.833 | | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 219.7    204.7|
17.083 | 21.48| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 204.7    102.3|
17.083 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 102.3    21.9|
18.917 | 14.52| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1341.1   1356.4|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #3| 21.9    0.0|
| | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #4| 102.3    22.0|
18.917 | 14.67| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1356.4   1371.2|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #4| 22.0    0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1371.2   1336.6|
17.333 | | |

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| | | | | | |
|----------|----------|---------------------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1336.6 | 1322.8 |
| 17.500 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | | 0.0 | 673.0 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1322.8 | 1821.9 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 673.0 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 19805.9 | 21627.8 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1821.9 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 21627.8 | 21604.8 |
| 17.667 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 797.5 |
| 16.333 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 21604.8 | 21935.3 |
| 17.583 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 797.5 | 0.0 |
| | | | | | |
| 134.00 | 134.00 | View: | Stream #1 | | 21935.3 |
| 17.583 | 18372.82 | 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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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 BODR 2022 - NODE 126 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 100-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV00126C.DAT
TIME/DATE OF STUDY: 06:10 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 = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.376
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 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 = 0.183 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.374
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 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) = 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 = 0.215 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.434
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 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 = 0.289 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.711
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 | 20229.1 |
18.000 | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 20229.1 | 20074.8 |
18.000 | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 131.9 |
16.250 | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 131.9 | 79.1 |
16.417 | 14.24 | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 20074.8 | 20114.4 |
18.000 | | |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 79.1 | 0.0 |
| | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 20114.4 | 20090.2 |
18.083 | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 351.3 |
16.250 | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 351.3 | 281.0 |
16.333 | 19.99 | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 20090.2 | 20186.1 |
18.083 | | |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 126.00 | 126.00 | Zero Out: Stream #2 | 281.0 | 0.0 |
| | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 106.6 |
16.333 | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 20186.1 | 20204.7 |
18.083 | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 106.6 | 0.0 |
| | | |
| 126.00 | 126.00 | View: Stream #1 | 20204.7 |
18.083 | 16212.06 | 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 BODR 2022 - NODE 127 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 100-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV00127C.DAT
TIME/DATE OF STUDY: 14:58 05/15/2023

** 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 = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.376
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.183 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.374
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.215 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.434
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

*****
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 = 0.289 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.711
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.239 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.359 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.402 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.584
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 1

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

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 20011.5 |
| 18.000 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 20011.5 | 19860.5 |
| 18.000 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 128.8 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 128.8 | 77.4 |
| 16.417 | 14.18 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 19860.5 | 19900.1 |
| 18.000 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 77.4 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 19900.1 | 19877.3 |
| 18.083 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 342.7 |
| 16.250 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 342.7 | 273.5 |
| 16.417 | 19.92 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 19877.3 | 19973.7 |
| 18.083 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 273.5 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 103.6 |
| 16.333 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 19973.7 | 19992.5 |
| 18.083 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 103.6 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 19992.5 | 19979.8 |
| 18.167 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 475.5 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 313.3 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 55.6 |
| 16.417 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 475.5 | 526.7 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 55.6 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 526.7 | 840.0 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 313.3 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 840.0 | 581.7 |
| 16.500 | 77.45 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 19979.8 | 20304.7 |
| 18.167 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 581.7 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 20304.7 | 20261.7 |
| 18.250 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 377.4 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 20261.7 | 20371.0 |
| 18.250 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 377.4 | 0.0 |
| | | | | |
| 127.00 | 127.00 | View: Stream #1 | | 20371.0 |
| 18.250 | 16610.18 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 100-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV00137C.DAT
TIME/DATE OF STUDY: 01:42 08/11/2023

** 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 = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.376
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 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 = 0.183 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.374
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 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:

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 1 | 0.00 | 0.00 | 0.000 |
| 2 | 1.00 | 0.80 | 1.520 |
| 3 | 2.00 | 1.30 | 3.150 |
| 4 | 3.00 | 1.60 | 4.900 |
| 5 | 4.00 | 1.80 | 6.790 |
| 6 | 5.00 | 2.10 | 8.810 |
| 7 | 6.00 | 2.30 | 10.970 |
| 8 | 7.00 | 47.90 | 13.270 |
| 9 | 8.00 | 131.60 | 15.720 |
| 10 | 9.00 | 241.70 | 18.320 |
| 11 | 10.00 | 372.80 | 21.060 |

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 = 0.215 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.434
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 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 = 0.289 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.711
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 = 0.239 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 = 0.359 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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.402 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.584
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.217; LOW LOSS FRACTION = 0.469
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

 FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
 UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
 CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
 =====

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

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

 FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
 CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.197 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.578
 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<<<<<

```

=====
*****
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 NUMBER | Qcenter (CFS) | Qpass (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 |

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 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
-----

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```

>>>>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.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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 = 0.291; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.311 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.431
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<<<<<<
=====

>>>>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<<<<<<
=====

>>>>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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.404 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.420
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<<<<<<
=====

>>>>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<<<<<<
=====

>>>>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<<<<<<
=====

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

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

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV00137C.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 | 18908.1 |
| 18.000 | | | | | |
| 119.00 | 12603.00 | | Convex Routing: Stream #1 | 18908.1 | 18774.8 |
| 18.000 | | | | | |
| 810.00 | 809.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 112.4 |
| 16.250 | | | | | |
| 809.00 | 12603.00 | | Flow-Through Basin: Stream #2 | 112.4 | 68.7 |
| 16.417 | 13.92 | | | | |
| 12603.00 | 12603.00 | | Stream #2 Added to: Stream #1 | 18774.8 | 18814.8 |
| 18.000 | | | | | |
| 12603.00 | 12603.00 | | Zero Out: Stream #2 | 68.7 | 0.0 |
| | | | | | |
| 12603.00 | 126.00 | | Convex Routing: Stream #1 | 18814.8 | 18800.5 |
| 18.083 | | | | | |
| 920.00 | 905.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 297.5 |
| 16.250 | | | | | |
| 905.00 | 126.00 | | Flow-Through Basin: Stream #2 | 297.5 | 234.5 |
| 16.417 | 19.53 | | | | |
| 126.00 | 126.00 | | Stream #2 Added to: Stream #1 | 18800.5 | 18901.1 |
| 18.083 | | | | | |
| 126.00 | 126.00 | | Zero Out: Stream #2 | 234.5 | 0.0 |
| | | | | | |
| 600.00 | 126.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 88.2 |
| 16.333 | | | | | |
| 126.00 | 126.00 | | Stream #2 Added to: Stream #1 | 18901.1 | 18920.7 |
| 18.083 | | | | | |
| 126.00 | 126.00 | | Zero Out: Stream #2 | 88.2 | 0.0 |
| | | | | | |
| 126.00 | 12720.50 | | Convex Routing: Stream #1 | 18920.7 | 18910.3 |
| 18.167 | | | | | |
| 320.00 | 331.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 423.0 |
| 16.333 | | | | | |
| 400.00 | 331.00 | | Subarea (UH) Added to Stream #3 | 0.0 | 276.4 |
| 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 | 423.0 | 468.1 |
| 16.333 | | | | | |

| | | | | | |
|----------|----------|--|---------------------------------|---------|---------|
| 331.00 | 331.00 | | Zero Out: Stream #4 | 48.8 | 0.0 |
| | | | | | |
| 331.00 | 331.00 | | Stream #3 Added to: Stream #2 | 468.1 | 744.5 |
| 16.333 | | | | | |
| 331.00 | 331.00 | | Zero Out: Stream #3 | 276.4 | 0.0 |
| | | | | | |
| 331.00 | 331.00 | | Flow-Through Basin: Stream #2 | 744.5 | 529.3 |
| 16.500 | 75.48 | | | | |
| 331.00 | 12720.50 | | Stream #2 Added to: Stream #1 | 18910.3 | 19240.0 |
| 18.167 | | | | | |
| 12720.50 | 12720.50 | | Zero Out: Stream #2 | 529.3 | 0.0 |
| | | | | | |
| 12720.50 | 127.00 | | Convex Routing: Stream #1 | 19240.0 | 19207.9 |
| 18.250 | | | | | |
| 12710.00 | 127.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 328.9 |
| 16.500 | | | | | |
| 127.00 | 127.00 | | Stream #2 Added to: Stream #1 | 19207.9 | 19321.8 |
| 18.250 | | | | | |
| 127.00 | 127.00 | | Zero Out: Stream #2 | 328.9 | 0.0 |
| | | | | | |
| 127.00 | 12902.00 | | Convex Routing: Stream #1 | 19321.8 | 19310.8 |
| 17.333 | | | | | |
| 50220.00 | 50347.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 521.9 |
| 16.333 | | | | | |
| 50347.00 | 50347.00 | | Flow-Through Basin: Stream #2 | 521.9 | 100.0 |
| 18.583 | 141.91 | | | | |
| 50347.00 | 12902.00 | | Convex Routing: Stream #2 | 100.0 | 100.0 |
| 18.750 | | | | | |
| 12902.00 | 12902.00 | | Stream #2 Added to: Stream #1 | 19310.8 | 19405.0 |
| 17.333 | | | | | |
| 12902.00 | 12902.00 | | Zero Out: Stream #2 | 100.0 | 0.0 |
| | | | | | |
| 12902.00 | 129.00 | | Convex Routing: Stream #1 | 19405.0 | 19400.0 |
| 17.417 | | | | | |
| 50400.00 | 129.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 224.1 |
| 16.250 | | | | | |
| 129.00 | 129.00 | | Stream #2 Added to: Stream #1 | 19400.0 | 19463.2 |
| 17.417 | | | | | |
| 129.00 | 129.00 | | Zero Out: Stream #2 | 224.1 | 0.0 |
| | | | | | |
| 210.00 | 221.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 127.5 |
| 16.333 | | | | | |

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: [EV00137C.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 |
-----+-----+-----+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 127.5    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| 107.2    36.5|
17.500 | 16.81| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 16.4    52.8|
17.500 | | |
| 222.00    222.00| Zero Out:           Stream #5| 36.5    0.0|
| | |
-----+-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1| 19463.2  19516.0|
17.417 | | |
| 129.00    129.00| Zero Out:           Stream #2| 52.8    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 19516.0  19507.8|
17.500 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0    1507.2|
16.833 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1507.2  1297.8|
16.833 | | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 209.4    195.2|
17.083 | 21.33| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 195.2    97.6|
17.083 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 97.6    21.6|
18.917 | 13.98| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1297.8  1312.8|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #3| 21.6    0.0|
| | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #4| 97.6    21.6|
18.917 | 14.13| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1312.8  1327.2|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #4| 21.6    0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1327.2  1295.0|
17.333 | | |

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| | | | | | |
|---|----------|---------------------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1295.0 | 1281.6 |
| 17.583 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | | 0.0 | 652.2 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1281.6 | 1775.2 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 652.2 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 19507.8 | 21282.9 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1775.2 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 21282.9 | 21259.9 |
| 17.667 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 769.0 |
| 16.333 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 21259.9 | 21600.9 |
| 17.583 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 769.0 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 1185.3 |
| 17.250 | | | | | |
| +-----+ | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 21600.9 | 22749.6 |
| 17.583 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 1185.3 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 22749.6 | 22733.1 |
| 17.750 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 492.6 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 22733.1 | 22976.8 |
| 17.667 | | | | | |
| +-----+ | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 492.6 | 0.0 |
| | | | | | |
| 137.00 | 137.00 | View: | Stream #1 | | 22976.8 |
| 17.667 | 19357.26 | 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)
(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 138 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 100-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV00138C.DAT
TIME/DATE OF STUDY: 01:42 08/11/2023

** 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 = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.376
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 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 = 0.183 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.374
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 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) = 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 = 0.215 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.434
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 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 |

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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<<<<
=====

*****
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 = 0.289 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.711
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 = 0.239 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 = 0.359 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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.402 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.584
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.217; LOW LOSS FRACTION = 0.469
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

 FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
 UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
 CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
 =====

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

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

 FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
 CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.197 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.578
 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<<<<<<
 =====

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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 = 0.287; 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 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 NUMBER | Qcenter (CFS) | Qpass (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 |

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 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
-----

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

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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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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

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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 | 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 = 0.287; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.311 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.431
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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.404 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.420
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]
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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 18821.7|
18.000 | | |
| 119.00 12603.00| Convex Routing: Stream #1| 18821.7 18689.6|
18.000 | | |
| 810.00 809.00| Subarea (UH) Added to Stream #2| 0.0 111.3|
16.250 | | |
| 809.00 12603.00| Flow-Through Basin: Stream #2| 111.3 68.1|
16.417 | 13.90| |
| 12603.00 12603.00| Stream #2 Added to: Stream #1| 18689.6 18729.6|
18.000 | | |
+-----+
+-----+
| 12603.00 12603.00| Zero Out: Stream #2| 68.1 0.0|
| | |
| 12603.00 126.00| Convex Routing: Stream #1| 18729.6 18715.7|
18.083 | | |
| 920.00 905.00| Subarea (UH) Added to Stream #2| 0.0 294.6|
16.250 | | |
| 905.00 126.00| Flow-Through Basin: Stream #2| 294.6 232.0|
16.417 | 19.50| |
| 126.00 126.00| Stream #2 Added to: Stream #1| 18715.7 18816.6|
18.083 | | |
+-----+
+-----+
| 126.00 126.00| Zero Out: Stream #2| 232.0 0.0|
| | |
| 600.00 126.00| Subarea (UH) Added to Stream #2| 0.0 87.2|
16.333 | | |
| 126.00 126.00| Stream #2 Added to: Stream #1| 18816.6 18836.3|
18.083 | | |
| 126.00 126.00| Zero Out: Stream #2| 87.2 0.0|
| | |
| 126.00 12720.50| Convex Routing: Stream #1| 18836.3 18825.9|
18.167 | | |
+-----+
+-----+
| 320.00 331.00| Subarea (UH) Added to Stream #2| 0.0 419.7|
16.333 | | |
| 400.00 331.00| Subarea (UH) Added to Stream #3| 0.0 273.9|
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| 419.7 464.4|
16.333 | | |

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|---------|---------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 48.3 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 464.4 | 738.4 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 273.9 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 738.4 | 525.7 |
| 16.500 | | 75.34 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 18825.9 | 19156.1 |
| 18.167 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 525.7 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 19156.1 | 19124.5 |
| 18.250 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 325.6 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 19124.5 | 19241.3 |
| 17.250 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 325.6 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 19241.3 | 19237.7 |
| 17.333 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 517.2 |
| 16.333 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 517.2 | 99.9 |
| 18.583 | | 141.58 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 99.9 | 99.9 |
| 18.750 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 19237.7 | 19331.8 |
| 17.333 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 99.9 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 19331.8 | 19326.1 |
| 17.417 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 221.7 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 19326.1 | 19389.5 |
| 17.417 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 221.7 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 126.4 |
| 16.333 | | | | | | |

|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 *

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| UPSTREAM TIME (2) TO | DOWNSTREAM MAX. STORAGE | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------------|----------------------------|------------------------|--------------------------|
| 221.00 | 221.00 | 126.4 | 20.2 |
| 221.00 | 223.00 | 20.2 | 16.4 |
| 221.00 | 222.00 | 106.2 | 36.3 |
| 223.00 | 222.00 | 16.4 | 52.6 |
| 222.00 | 222.00 | 36.3 | 0.0 |

| | | | | | |
|--------|--------|---------------------|-----------|-------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 126.4 | 20.2 |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 20.2 | 16.4 |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 106.2 | 36.3 |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 16.4 | 52.6 |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 36.3 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 19389.5 | 19442.0 |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 52.6 | 0.0 |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 19442.0 | 19433.2 |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1494.3 |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 1494.3 | 1287.4 |

| | | | | | |
|--------|--------|---------------------|-----------|--------|--------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 206.9 | 193.0 |
| 132.00 | 132.00 | Split Hydrograph: | Stream #3 | 193.0 | 96.5 |
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 96.5 | 21.5 |
| 132.00 | 132.00 | Stream #3 Added to: | Stream #2 | 1287.4 | 1302.3 |
| 132.00 | 132.00 | Zero Out: | Stream #3 | 21.5 | 0.0 |

| | | | | | |
|--------|----------|---------------------|-----------|--------|--------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #4 | 96.5 | 21.5 |
| 132.00 | 132.00 | Stream #4 Added to: | Stream #2 | 1302.3 | 1316.6 |
| 132.00 | 132.00 | Zero Out: | Stream #4 | 21.5 | 0.0 |
| 132.00 | 13305.00 | Convex Routing: | Stream #2 | 1316.6 | 1285.4 |

| | | | | | |
|----------|--------|-----------------|-----------|--------|--------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1285.4 | 1272.0 |
|----------|--------|-----------------|-----------|--------|--------|

| | | | | | |
|--------|--------|-----------------------|-----------|---------|---------|
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 647.2 |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1272.0 | 1763.7 |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 647.2 | 0.0 |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 19433.2 | 21196.9 |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1763.7 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 21196.9 | 21173.8 |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 762.2 |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 21173.8 | 21517.6 |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 762.2 | 0.0 |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1178.1 |

| | | | | | |
|--------|--------|-----------------------|-----------|---------|---------|
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 21517.6 | 22660.2 |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 1178.1 | 0.0 |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 22660.2 | 22643.3 |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 488.2 |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 22643.3 | 22889.4 |

| | | | | | |
|--------|--------|-----------------------|-----------|---------|---------|
| 137.00 | 137.00 | Zero Out: | Stream #2 | 488.2 | 0.0 |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 22889.4 | 22884.5 |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 473.2 |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 22884.5 | 23142.3 |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 473.2 | 0.0 |

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

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|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV00138C.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 |
-----+-----+-----+-----+
| 138.00 138.00| View: Stream #1| 23142.3|
17.833 | 19590.45| 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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Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 ROMP AMENDMENT 2022 - NODE 139 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 100-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV00139C.DAT
TIME/DATE OF STUDY: 01:41 08/11/2023

** 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 = 1.964 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.376
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 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 = 0.183 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.374
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 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 = 0.215 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.434
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 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 = 0.289 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.711
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 = 0.239 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

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 = 0.359 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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.402 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.584
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.217; LOW LOSS FRACTION = 0.469
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.197 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.578
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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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
-----

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

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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<<<<<

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

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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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 = 0.286; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.311 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.431
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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.404 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.420
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<<<<<<
=====

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) = 133.00; 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<<<<
=====

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 = 0.241 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 = 0.348; 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: [EV00139C.DAT]

Page: 1 of 1

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

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 18796.6 |
| 18.000 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 18796.6 | 18665.0 |
| 18.000 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 110.9 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 110.9 | 67.9 |
| 16.417 | 13.90 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 18665.0 | 18705.0 |
| 18.000 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 67.9 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 18705.0 | 18691.2 |
| 18.083 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 293.5 |
| 16.250 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 293.5 | 231.2 |
| 16.417 | 19.49 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 18691.2 | 18792.3 |
| 18.083 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 231.2 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 86.9 |
| 16.333 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 18792.3 | 18812.0 |
| 18.083 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 86.9 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 18812.0 | 18801.7 |
| 18.167 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 418.4 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 273.1 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 48.2 |
| 16.417 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 418.4 | 463.1 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 48.2 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 463.1 | 736.2 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 273.1 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 736.2 | 524.5 |
| 16.500 | 75.30 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 18801.7 | 19132.0 |
| 18.167 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 524.5 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 19132.0 | 19100.9 |
| 18.250 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 324.5 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 19100.9 | 19220.6 |
| 17.250 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 324.5 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 19220.6 | 19216.9 |
| 17.333 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 515.5 |
| 16.333 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 515.5 | 99.8 |
| 18.583 | 141.49 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 99.8 | 99.8 |
| 18.750 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 19216.9 | 19310.9 |
| 17.333 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 99.8 | 0.0 |
| | | | | |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 19310.9 | 19305.1 |
| 17.417 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 220.8 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 19305.1 | 19368.5 |
| 17.417 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 220.8 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 126.0 |
| 16.333 | | | | |

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: [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 |
-----+-----+-----+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 126.0    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| 105.8    36.2|
17.500 | 16.75| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 16.4    52.5|
17.500 | | |
| 222.00    222.00| Zero Out:           Stream #5| 36.2    0.0|
| | |
-----+-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1| 19368.5  19420.9|
17.417 | | |
| 129.00    129.00| Zero Out:           Stream #2| 52.5    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 19420.9  19412.1|
17.500 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0    1490.2|
16.833 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1490.2   1284.0|
16.833 | | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 206.1    192.3|
17.083 | 21.28| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 192.3    96.1|
17.083 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 96.1    21.5|
18.917 | 13.80| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1284.0   1299.0|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #3| 21.5    0.0|
| | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #4| 96.1    21.5|
18.917 | 13.95| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1299.0   1313.2|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #4| 21.5    0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1313.2   1282.1|
17.333 | | |

```

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1282.1 | 1268.8 |
| 17.583 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 645.6 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1268.8 | 1760.2 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 645.6 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 19412.1 | 21172.2 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1760.2 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 21172.2 | 21149.2 |
| 17.667 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 759.7 |
| 16.333 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 21149.2 | 21493.6 |
| 17.583 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 759.7 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1176.0 |
| 17.250 | | | | | |
| +-----+ | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 21493.6 | 22634.4 |
| 17.583 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 1176.0 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 22634.4 | 22617.5 |
| 17.750 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 486.8 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 22617.5 | 22864.0 |
| 17.667 | | | | | |
| +-----+ | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 486.8 | 0.0 |
| | | | | | |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 22864.0 | 22858.0 |
| 17.833 | | | | | |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 471.8 |
| 16.583 | | | | | |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 22858.0 | 23115.9 |
| 17.833 | | | | | |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 471.8 | 0.0 |
| | | | | | |

[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

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

| INPUT FILENAME: [EV00139C.DAT]

Page: 3 of |

| UPSTREAM TIME (2) TO | DOWNSTREAM MAX. STORAGE | HYDROLOGIC/HYDRAULIC PROCESS | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------------|----------------------------|---------------------------------|------------------------|--------------------------|
| 138.00 | 139.00 | Convex Routing: | 23115.9 | 23109.5 |
| 138.00 | 139.00 | Subarea (UH) Added to Stream #2 | 0.0 | 227.2 |
| 139.00 | 139.00 | Stream #2 Added to: | 23109.5 | 23190.1 |
| 139.00 | 139.00 | Zero Out: | 227.2 | 0.0 |
| 139.00 | 139.00 | View: | 23190.1 | |

| | | | | |
|--------|----------|---|--|--|
| 17.833 | | | | |
| 16.333 | | | | |
| 17.833 | | | | |
| 17.833 | 19672.67 | 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 BODR 2022 - NODE 133C *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV0233CC.DAT
TIME/DATE OF STUDY: 18:56 05/15/2023

** 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 = 0.83; 6-HOUR = 1.25; 24-HOUR = 2.20
*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 = 0.220 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 = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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 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) = 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 = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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 = 0.430 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 = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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 = 0.30; 1-HOUR = 0.40
3-HOUR = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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 = 0.30; 1-HOUR = 0.40
3-HOUR = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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 = 0.576 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 = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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 = 935.000 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 = 0.980
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
3-HOUR = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.427 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.434; LOW LOSS FRACTION = 0.737
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
 3-HOUR = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
 *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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

 FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
 CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

 FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
 CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 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) = 0.545; LOW LOSS FRACTION = 0.912
 SPECIFIED PEAK RAINFALL DEPTHS (INCH):

5-MINUTE = 0.14; 30-MINUTE = 0.30; 1-HOUR = 0.40
 3-HOUR = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56

*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 = 0.310 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 = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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 NUMBER | Qcenter (CFS) | Qpass (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
-----

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```

>>>>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 = 0.30; 1-HOUR = 0.40
3-HOUR = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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 = 0.30; 1-HOUR = 0.40
3-HOUR = 0.67; 6-HOUR = 0.92; 24-HOUR = 1.56
*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<<<<
=====

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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 |
-----+-----
| 10100.00   119.00| Subarea (UH) Added to Stream #1|      0.0    551.7|
20.417 | |
| 119.00     12603.00| Convex Routing:      Stream #1|    551.7    550.2|
20.500 | |
| 810.00     809.00| Subarea (UH) Added to Stream #2|      0.0     16.8|
16.250 | |
| 809.00     12603.00| Flow-Through Basin: Stream #2|    16.8     1.7|
23.500 | 5.63|
| 12603.00   12603.00| Stream #2 Added to: Stream #1|    550.2    551.9|
20.500 | |
-----+-----
| 12603.00   12603.00| Zero Out:      Stream #2|      1.7     0.0|
|
| 12603.00   126.00| Convex Routing:      Stream #1|    551.9    550.9|
20.583 | |
| 920.00     905.00| Subarea (UH) Added to Stream #2|      0.0     18.8|
16.333 | |
| 905.00     126.00| Flow-Through Basin: Stream #2|    18.8     1.6|
24.250 | 7.58|
| 126.00     126.00| Stream #2 Added to: Stream #1|    550.9    552.5|
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|    552.5    552.8|
20.583 | |
| 126.00     126.00| Zero Out:      Stream #2|      1.6     0.0|
|
| 126.00    12720.50| Convex Routing:      Stream #1|    552.8    552.0|
20.750 | |
-----+-----
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0     97.5|
16.417 | |
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0     53.6|
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|     97.5    99.0|
16.417 | |

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| | | | | | | |
|---------|----------|----------|-----------------------|-----------|-------|-------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 1.7 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 99.0 | 152.5 |
| 16.417 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 53.6 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 152.5 | 82.2 |
| 17.583 | | 54.22 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 552.0 | 594.6 |
| 20.000 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 82.2 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 594.6 | 594.0 |
| 20.083 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 3.9 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 594.0 | 594.8 |
| 20.083 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 3.9 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 594.8 | 594.4 |
| 20.917 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 63.4 |
| 16.500 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 63.4 | 9.7 |
| 21.750 | | 30.25 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 9.7 | 9.7 |
| 21.917 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 594.4 | 604.0 |
| 20.917 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 9.7 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 604.0 | 603.8 |
| 21.000 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 9.5 |
| 16.333 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 603.8 | 605.1 |
| 21.000 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 9.5 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 25.6 |
| 16.333 | | | | | | |

[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: [EV0233CC.DAT]

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| UPSTREAM TIME (2) PEAK (HR) | DOWNSTREAM NODE # MODELED (AF) | HYDROLOGIC/HYDRAULIC PROCESS FOOTNOTES | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|--------------------------------|-----------------------------------|---|---------------------|-----------------------|
| 221.00 16.333 | 221.00 | Flowby Basin Model: Stream #2 | 25.6 | 13.6 |
| 221.00 18.000 | 223.00 2.66 | Flow-Through Basin: Stream #2 | 13.6 | 6.0 |
| 221.00 18.333 | 222.00 2.15 | Flow-Through Basin: Stream #5 | 12.0 | 3.9 |
| 223.00 18.083 | 222.00 | Stream #5 Added to: Stream #2 | 6.0 | 9.9 |
| 222.00 | 222.00 | Zero Out: Stream #5 | 3.9 | 0.0 |
| 222.00 21.000 | 129.00 | Stream #2 Added to: Stream #1 | 605.1 | 612.8 |
| 129.00 | 129.00 | Zero Out: Stream #2 | 9.9 | 0.0 |
| 129.00 21.083 | 133.00 | Convex Routing: Stream #1 | 612.8 | 612.6 |
| 13010.00 17.333 | 132.00 | Subarea (UH) Added to Stream #2 | 0.0 | 145.2 |
| 132.00 17.333 | 132.00 | Flowby Basin Model: Stream #2 | 145.2 | 145.2 |
| 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 | 145.2 | 143.6 |
| 13305.00 18.250 | 133.00 | Convex Routing: Stream #2 | 143.6 | 143.0 |
| 132.00 17.000 | 133.00 | Subarea (UH) Added to Stream #3 | 0.0 | 77.1 |
| 133.00 17.167 | 133.00 | Stream #3 Added to: Stream #2 | 143.0 | 208.4 |
| 133.00 | 133.00 | Zero Out: Stream #3 | 77.1 | 0.0 |
| 133.00 18.500 | 133.00 | Stream #2 Added to: Stream #1 | 612.6 | 722.2 |
| 133.00 | 133.00 | Zero Out: Stream #2 | 208.4 | 0.0 |

| UPSTREAM TIME (2) PEAK (HR) | DOWNSTREAM NODE # MODELED (AF) | HYDROLOGIC/HYDRAULIC PROCESS FOOTNOTES | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|--------------------------------|-----------------------------------|---|---------------------|-----------------------|
| 133.00 18.500 | 133.00 | Stream #1 | 133.00 | 722.2 |
| 133.00 | 133.00 | Zero Out: Stream #2 | 208.4 | 0.0 |

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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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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV OCT 2022 ROKAMOTO *

FILE NAME: EVO233TC.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.
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 = 0.947 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 PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------------|----------------------------|------------------------------|--------------------------|
| NODE # | NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) |
| PEAK (HR) | MODELED (AF) | FOOTNOTES | |

| | | | | |
|----------|----------|---------------------------------|-------|-------|
| 13010.00 | 132.00 | Subarea (UH) Added to Stream #2 | 0.0 | 352.4 |
| 17.333 | | | | |
| 132.00 | 132.00 | Flowby Basin Model: Stream #2 | 352.4 | 352.4 |
| 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 | 352.4 | 339.8 |
| 17.667 | | | | |

| | | | | |
|----------|--------|---------------------------------|-------|-------|
| 13305.00 | 133.00 | Convex Routing: Stream #2 | 339.8 | 329.9 |
| 17.917 | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | 0.0 | 178.9 |
| 17.000 | | | | |
| 133.00 | 133.00 | Stream #3 Added to: Stream #2 | 329.9 | 402.8 |
| 17.917 | | | | |
| 133.00 | 133.00 | Zero Out: Stream #3 | 178.9 | 0.0 |
| | | | | |
| 133.00 | 133.00 | Stream #2 Added to: Stream #1 | 0.0 | 402.8 |
| 17.917 | | | | |

| | | | | |
|--------|--------|---------------------|-------|-------|
| 133.00 | 133.00 | Zero Out: Stream #2 | 402.8 | 0.0 |
| | | | | |
| 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
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Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 BODR 2022 - NODE 133U *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EVO233UC.DAT
TIME/DATE OF STUDY: 18:57 05/15/2023

** 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 = 0.18; 30-MINUTE = 0.33; 1-HOUR = 0.45
3-HOUR = 0.85; 6-HOUR = 1.27; 24-HOUR = 2.24
*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 = 0.220 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 = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59
*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 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) = 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 = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59
*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 = 0.430 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 = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59
*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 = 0.31; 1-HOUR = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59
*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 = 0.31; 1-HOUR = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59
*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 = 0.576 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 = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59
*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 = 935.000 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 = 0.980
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59
*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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.427 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.434; LOW LOSS FRACTION = 0.737
SPECIFIED PEAK RAINFALL DEPTHS(INCH):

5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59
*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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 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) = 0.545; LOW LOSS FRACTION = 0.912
SPECIFIED PEAK RAINFALL DEPTHS (INCH):

5-MINUTE = 0.14; 30-MINUTE = 0.31; 1-HOUR = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59

*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 = 0.310 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 = 0.41
3-HOUR = 0.68; 6-HOUR = 0.94; 24-HOUR = 1.59
*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 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 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<<<<
=====

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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
-----

```

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

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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 133.00 TO NODE 133.00 IS CODE = 11

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

Table with columns: TIME(2) TO, MAX. STORAGE, UPSTREAM, DOWNSTREAM, PEAK (CFS), PEAK (CFS). Rows include process details like 'Subarea (UH) Added to Stream #1', 'Convex Routing', and 'Flow-Through Basin'.

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|-------|-------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 1.8 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 107.9 | 166.1 |
| 16.417 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 58.6 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 166.1 | 90.5 |
| 17.417 | | 54.72 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 597.9 | 640.5 |
| 20.750 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 90.5 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 640.5 | 639.1 |
| 20.917 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 4.1 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 639.1 | 639.8 |
| 20.917 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 4.1 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 639.8 | 639.5 |
| 21.000 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 67.7 |
| 16.500 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 67.7 | 10.2 |
| 21.417 | | 30.77 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 10.2 | 10.2 |
| 21.583 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 639.5 | 649.7 |
| 21.000 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 10.2 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 649.7 | 649.1 |
| 21.083 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 10.2 |
| 16.333 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 649.1 | 650.4 |
| 21.083 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 10.2 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 28.3 |
| 16.333 | | | | | | |

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: [EV0233UC.DAT]

Page: 2 of |

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

| | | | | | |
|--------|--------|---------------------|-----------|------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 28.3 | 13.8 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 13.8 | 6.5 |
| 17.750 | 2.72 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 14.5 | 4.0 |
| 18.333 | 2.27 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 6.5 | 10.4 |
| 17.833 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 4.0 | 0.0 |
| | | | | | |

| | | | | | |
|--------|--------|---------------------|-----------|-------|-------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 650.4 | 658.2 |
| 21.083 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 10.4 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 658.2 | 657.4 |
| 21.167 | | | | | |
| 133.00 | 133.00 | View: | Stream #1 | | 657.4 |
| 21.167 | 713.11 | 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

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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV0234CC.DAT
TIME/DATE OF STUDY: 02:25 08/11/2023

** 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 = 0.16; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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 = 0.220 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 = 0.13; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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) = 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 = 0.13; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
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 = 0.430 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 = 0.13; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.13; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.13; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.576 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 935.000 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 = 0.980
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 12902.00 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) = 215.00
CHANNEL LENGTH (FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

```
*****
FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
```

```
WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.427 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.434; LOW LOSS FRACTION = 0.737
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

FLOW PROCESS FROM NODE 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 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) = 0.545; LOW LOSS FRACTION = 0.912
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.13; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 NUMBER | Qcenter (CFS) | Qpass (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 = 0.13; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 NUMBER | Qenter (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 = 0.13; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 1691.600 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) = 0.487; LOW LOSS FRACTION = 0.818
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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

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```

*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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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]

Page: 1 of 1

| UPSTREAM TIME (2) | DOWNSTREAM MAX. STORAGE | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) | PROCESS |
|-------------------|-------------------------|---------------------|-----------------------|---------------------------------|
| 10100.00 | 119.00 | 0.0 | 517.8 | Subarea (UH) Added to Stream #1 |
| 20.417 | | | | |
| 119.00 | 12603.00 | 517.8 | 516.5 | Convex Routing: Stream #1 |
| 20.500 | | | | |
| 810.00 | 809.00 | 0.0 | 15.5 | Subarea (UH) Added to Stream #2 |
| 16.250 | | | | |
| 809.00 | 12603.00 | 15.5 | 1.6 | Flow-Through Basin: Stream #2 |
| 23.250 | 5.28 | | | |
| 12603.00 | 12603.00 | 516.5 | 518.2 | Stream #2 Added to: Stream #1 |
| 20.500 | | | | |
| 12603.00 | 12603.00 | 1.6 | 0.0 | Zero Out: Stream #2 |
| 12603.00 | 126.00 | 518.2 | 517.3 | Convex Routing: Stream #1 |
| 20.583 | | | | |
| 920.00 | 905.00 | 0.0 | 17.3 | Subarea (UH) Added to Stream #2 |
| 16.333 | | | | |
| 905.00 | 126.00 | 17.3 | 1.5 | Flow-Through Basin: Stream #2 |
| 24.250 | 7.14 | | | |
| 126.00 | 126.00 | 517.3 | 518.8 | Stream #2 Added to: Stream #1 |
| 20.583 | | | | |
| 126.00 | 126.00 | 1.5 | 0.0 | Zero Out: Stream #2 |
| 600.00 | 126.00 | 0.0 | 1.5 | Subarea (UH) Added to Stream #2 |
| 16.500 | | | | |
| 126.00 | 126.00 | 518.8 | 519.1 | Stream #2 Added to: Stream #1 |
| 20.583 | | | | |
| 126.00 | 126.00 | 1.5 | 0.0 | Zero Out: Stream #2 |
| 126.00 | 12720.50 | 519.1 | 518.5 | Convex Routing: Stream #1 |
| 20.750 | | | | |
| 320.00 | 331.00 | 0.0 | 88.3 | Subarea (UH) Added to Stream #2 |
| 16.417 | | | | |
| 400.00 | 331.00 | 0.0 | 49.6 | 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 | 88.3 | 89.8 | Stream #4 Added to: Stream #2 |
| 16.417 | | | | |

| | | | | | |
|----------|----------|------------------------|-----------|-------|-------|
| 331.00 | 331.00 | Zero Out: | Stream #4 | 1.6 | 0.0 |
| 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 89.8 | 138.8 |
| 16.417 | | | | | |
| 331.00 | 331.00 | Zero Out: | Stream #3 | 49.6 | 0.0 |
| 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 138.8 | 64.8 |
| 18.000 | 53.17 | | | | |
| 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 518.5 | 560.1 |
| 20.000 | | | | | |
| 12720.50 | 12720.50 | Zero Out: | Stream #2 | 64.8 | 0.0 |
| 12720.50 | 127.00 | Convex Routing: | Stream #1 | 560.1 | 559.5 |
| 20.083 | | | | | |
| 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 | 559.5 | 560.3 |
| 20.083 | | | | | |
| 127.00 | 127.00 | Zero Out: | Stream #2 | 3.6 | 0.0 |
| 127.00 | 12902.00 | Convex Routing: | Stream #1 | 560.3 | 559.8 |
| 20.250 | | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 58.5 |
| 16.500 | | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 58.5 | 8.5 |
| 22.583 | 29.06 | | | | |
| 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 8.5 | 8.5 |
| 22.750 | | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 559.8 | 568.0 |
| 20.250 | | | | | |
| 12902.00 | 12902.00 | Zero Out: | Stream #2 | 8.5 | 0.0 |
| 12902.00 | 129.00 | Convex Routing: | Stream #1 | 568.0 | 567.5 |
| 21.000 | | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 8.8 |
| 16.333 | | | | | |
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 567.5 | 568.8 |
| 20.333 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 8.8 | 0.0 |
| 210.00 | 221.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 23.7 |
| 16.333 | | | | | |

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: [EV0234CC.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 |
-----+-----+-----+-----+
| 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    5.3|
18.167 | 2.51| |
| 221.00    222.00| Flow-Through Basin:  Stream #5|    10.8    3.8|
18.333 | 1.97| |
| 223.00    222.00| Stream #5 Added to:  Stream #2|    5.3    9.1|
18.167 | | |
| 222.00    222.00| Zero Out:           Stream #5|    3.8    0.0|
| | |
-----+-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1|   568.8   576.5|
20.333 | | |
| 129.00    129.00| Zero Out:           Stream #2|    9.1    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1|   576.5   576.0|
20.500 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2|    0.0   135.4|
17.333 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2|   135.4   135.4|
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|   135.4   133.9|
17.917 | | |
| 13305.00  133.00| Convex Routing:     Stream #2|   133.9   133.4|
18.250 | | |
| 132.00    133.00| Subarea (UH) Added to Stream #3|    0.0   71.7|
17.000 | | |
-----+-----+-----+-----+
| 133.00    133.00| Stream #3 Added to:  Stream #2|   133.4   195.0|
17.167 | | |
| 133.00    133.00| Zero Out:           Stream #3|    71.7    0.0|
| | |
| 133.00    133.00| Stream #2 Added to:  Stream #1|   576.0   672.0|
18.750 | | |
| 133.00    133.00| Zero Out:           Stream #2|   195.0    0.0|
| | |

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| | | | | | | |
|---|----------|--------|---------------------------------|-----------|-------|-------|
| | 133.00 | 134.00 | Convex Routing: | Stream #1 | 672.0 | 671.8 |
| 19.000 | | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | | |
| | 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 62.5 |
| 16.417 | | | | | | |
| | 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 671.8 | 686.8 |
| 18.917 | | | | | | |
| | 134.00 | 134.00 | Zero Out: | Stream #2 | 62.5 | 0.0 |
| | | | | | | |
| | 13500.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 49.3 |
| 18.000 | | | | | | |
| | 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 686.8 | 735.6 |
| 18.750 | | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | | |
| | 134.00 | 134.00 | Zero Out: | Stream #2 | 49.3 | 0.0 |
| | | | | | | |
| | 134.00 | 134.00 | View: | Stream #1 | | 735.6 |
| 18.750 | | 859.81 | 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 134U *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EVO234UC.DAT
TIME/DATE OF STUDY: 02:26 08/11/2023

** 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 = 0.31; 1-HOUR = 0.43
3-HOUR = 0.80; 6-HOUR = 1.20; 24-HOUR = 2.11
*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 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 = 0.220 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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 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) = 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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 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 = 0.430 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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 = 0.576 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 = 0.88; 24-HOUR = 1.50
*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 | 1416.00 | 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 = 935.000 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 = 0.980
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 12902.00 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) = 215.00
CHANNEL LENGTH (FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.427 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.434; LOW LOSS FRACTION = 0.737
SPECIFIED PEAK RAINFALL DEPTHS (INCH):

5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 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) = 0.545; LOW LOSS FRACTION = 0.912
SPECIFIED PEAK RAINFALL DEPTHS (INCH):

5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50

*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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 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
-----

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```

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

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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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*****

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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<<<<<

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 = 0.88; 24-HOUR = 1.50
*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 NUMBER | Qenter (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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 = 1691.600 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) = 0.487; LOW LOSS FRACTION = 0.818
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.14; 30-MINUTE = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.88; 24-HOUR = 1.50
*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 *

INPUT FILENAME: [EV0234UC.DAT]

Page: 1 of 1

| UPSTREAM TIME (2) | DOWNSTREAM MAX. STORAGE | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) | PROCESS |
|-------------------|-------------------------|---------------------|-----------------------|---------------------------------|
| 10100.00 | 119.00 | 0.0 | 528.7 | Subarea (UH) Added to Stream #1 |
| 20.417 | | | | |
| 119.00 | 12603.00 | 528.7 | 527.4 | Convex Routing: Stream #1 |
| 20.500 | | | | |
| 810.00 | 809.00 | 0.0 | 16.2 | Subarea (UH) Added to Stream #2 |
| 16.250 | | | | |
| 809.00 | 12603.00 | 16.2 | 1.7 | Flow-Through Basin: Stream #2 |
| 23.333 | 5.38 | | | |
| 12603.00 | 12603.00 | 527.4 | 529.0 | Stream #2 Added to: Stream #1 |
| 20.500 | | | | |
| 12603.00 | 12603.00 | 1.7 | 0.0 | Zero Out: Stream #2 |
| 12603.00 | 126.00 | 529.0 | 528.1 | Convex Routing: Stream #1 |
| 20.583 | | | | |
| 920.00 | 905.00 | 0.0 | 18.1 | Subarea (UH) Added to Stream #2 |
| 16.333 | | | | |
| 905.00 | 126.00 | 18.1 | 1.6 | Flow-Through Basin: Stream #2 |
| 24.250 | 7.26 | | | |
| 126.00 | 126.00 | 528.1 | 529.6 | 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 | 1.5 | Subarea (UH) Added to Stream #2 |
| 16.500 | | | | |
| 126.00 | 126.00 | 529.6 | 529.9 | Stream #2 Added to: Stream #1 |
| 20.583 | | | | |
| 126.00 | 126.00 | 1.5 | 0.0 | Zero Out: Stream #2 |
| 126.00 | 12720.50 | 529.9 | 529.1 | Convex Routing: Stream #1 |
| 20.750 | | | | |
| 320.00 | 331.00 | 0.0 | 93.6 | Subarea (UH) Added to Stream #2 |
| 16.417 | | | | |
| 400.00 | 331.00 | 0.0 | 51.7 | Subarea (UH) Added to Stream #3 |
| 16.417 | | | | |
| 390.00 | 331.00 | 0.0 | 1.7 | Subarea (UH) Added to Stream #4 |
| 16.667 | | | | |
| 331.00 | 331.00 | 93.6 | 95.1 | Stream #4 Added to: Stream #2 |
| 16.417 | | | | |

| | | | | | |
|----------|----------|------------------------|-----------|-------|-------|
| 331.00 | 331.00 | Zero Out: | Stream #4 | 1.7 | 0.0 |
| 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 95.1 | 146.8 |
| 16.417 | | | | | |
| 331.00 | 331.00 | Zero Out: | Stream #3 | 51.7 | 0.0 |
| 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 146.8 | 70.2 |
| 17.750 | 53.50 | | | | |
| 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 529.1 | 570.8 |
| 20.000 | | | | | |
| 12720.50 | 12720.50 | Zero Out: | Stream #2 | 70.2 | 0.0 |
| 12720.50 | 127.00 | Convex Routing: | Stream #1 | 570.8 | 570.2 |
| 20.083 | | | | | |
| 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 | 570.2 | 570.9 |
| 20.083 | | | | | |
| 127.00 | 127.00 | Zero Out: | Stream #2 | 3.7 | 0.0 |
| 127.00 | 12902.00 | Convex Routing: | Stream #1 | 570.9 | 570.5 |
| 20.250 | | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 61.2 |
| 16.500 | | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 61.2 | 8.8 |
| 22.333 | 29.39 | | | | |
| 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 8.8 | 8.8 |
| 22.500 | | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 570.5 | 579.0 |
| 20.917 | | | | | |
| 12902.00 | 12902.00 | Zero Out: | Stream #2 | 8.8 | 0.0 |
| 12902.00 | 129.00 | Convex Routing: | Stream #1 | 579.0 | 578.9 |
| 21.000 | | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 9.2 |
| 16.333 | | | | | |
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 578.9 | 580.1 |
| 21.000 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 9.2 | 0.0 |
| 210.00 | 221.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 24.6 |
| 16.333 | | | | | |

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: [EV0234UC.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 |
-----+-----+-----+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2|    24.6    13.4|
16.333 | | |
| 221.00    223.00| Flow-Through Basin:  Stream #2|    13.4     5.5|
18.083 | 2.56| |
| 221.00    222.00| Flow-Through Basin:  Stream #5|    11.2     3.8|
18.333 | 2.02| |
| 223.00    222.00| Stream #5 Added to:  Stream #2|     5.5     9.3|
18.167 | | |
| 222.00    222.00| Zero Out:           Stream #5|     3.8     0.0|
| | |
-----+-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1|   580.1   587.7|
20.333 | | |
| 129.00    129.00| Zero Out:           Stream #2|     9.3     0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1|   587.7   587.4|
21.083 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2|     0.0   140.0|
17.333 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2|   140.0   140.0|
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|   140.0   138.5|
17.917 | | |
| 13305.00  133.00| Convex Routing:     Stream #2|   138.5   137.9|
18.250 | | |
| 132.00    133.00| Subarea (UH) Added to Stream #3|     0.0    74.4|
17.000 | | |
-----+-----+-----+-----+
| 133.00    133.00| Stream #3 Added to:  Stream #2|   137.9   201.0|
17.167 | | |
| 133.00    133.00| Zero Out:           Stream #3|    74.4     0.0|
| | |
| 133.00    133.00| Stream #2 Added to:  Stream #1|   587.4   686.5|
18.667 | | |
| 133.00    133.00| Zero Out:           Stream #2|   201.0     0.0|
| | |

```

| | | | | | | |
|---------------------------------|--------|--------|---------------------------------|-----------|-------|-------|
| | 133.00 | 134.00 | Convex Routing: | Stream #1 | 686.5 | 686.3 |
| 18.917 | | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | | |
| | 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 65.0 |
| 16.417 | | | | | | |
| | 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 686.3 | 702.9 |
| 18.667 | | | | | | |
| | 134.00 | 134.00 | Zero Out: | Stream #2 | 65.0 | 0.0 |
| | | | | | | |
| | 134.00 | 134.00 | View: | Stream #1 | | 702.9 |
| 18.667 | | 834.00 | 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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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 BODR 2022 - NODE 133C *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 5-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV0533CC.DAT
TIME/DATE OF STUDY: 18:45 05/15/2023

** 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 = 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 = 0.308; 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 = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.598
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 = 0.308; 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 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) = 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 = 0.253 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.424; LOW LOSS FRACTION = 0.818
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 = 0.308; 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 | 1142.40 | 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 = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.483; LOW LOSS FRACTION = 0.944
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 = 0.308; 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 = 0.331 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 = 0.308; 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 = 0.58
3-HOUR = 0.97; 6-HOUR = 1.33; 24-HOUR = 2.23
*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 = 0.447 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 = 0.308; 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 = 935.000 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) = 0.491; LOW LOSS FRACTION = 0.953
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 = 0.308; 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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.362; LOW LOSS FRACTION = 0.671
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 = 0.308; 30-MINUTE = 0.363; 1-HOUR = 0.408
3-HOUR = 0.754; 6-HOUR = 0.891; 24-HOUR = 0.936

FLOW PROCESS FROM NODE 503.00 TO NODE 503.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
=====

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.219 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.454; LOW LOSS FRACTION = 0.878
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 = 0.308; 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 = 0.286 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 = 0.308; 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 NUMBER | Qcenter (CFS) | Qpass (CFS) |
|------------------|---------------|-------------|
| - | 0.00 | 0.00 |
| 1 | 28.00 | 13.60 |
| 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 |

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 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 | 122.96 | 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 = 0.308; 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<<<<<
=====
***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 = 0.308; 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<<<<
=====

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|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0533CC.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    2386.9|
19.333 |                                     |
| 119.00     12603.00| Convex Routing:      Stream #1|    2386.9    2361.7|
19.417 |                                     |
| 810.00     809.00| Subarea (UH) Added to Stream #2|      0.0     34.5|
16.250 |                                     |
| 809.00     12603.00| Flow-Through Basin: Stream #2|     34.5     2.2|
24.167 |          9.59|                                     |
| 12603.00   12603.00| Stream #2 Added to: Stream #1|    2361.7    2363.8|
19.417 |                                     |
-----+-----
| 12603.00   12603.00| Zero Out:      Stream #2|      2.2     0.0|
|                                     |
| 12603.00   126.00| Convex Routing:      Stream #1|    2363.8    2347.8|
19.250 |                                     |
| 920.00     905.00| Subarea (UH) Added to Stream #2|      0.0     60.0|
16.333 |                                     |
| 905.00     126.00| Flow-Through Basin: Stream #2|     60.0     18.1|
17.417 |          10.97|                                     |
| 126.00     126.00| Stream #2 Added to: Stream #1|    2347.8    2362.6|
19.250 |                                     |
-----+-----
| 126.00     126.00| Zero Out:      Stream #2|     18.1     0.0|
|                                     |
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0     12.7|
16.417 |                                     |
| 126.00     126.00| Stream #2 Added to: Stream #1|    2362.6    2363.4|
19.250 |                                     |
| 126.00     126.00| Zero Out:      Stream #2|     12.7     0.0|
|                                     |
| 126.00    12720.50| Convex Routing:      Stream #1|    2363.4    2358.1|
19.583 |                                     |
-----+-----
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0    165.6|
16.417 |                                     |
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0    100.2|
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|    165.6    172.4|
16.417 |                                     |

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| | | | | | | |
|---------|----------|----------|-----------------------|-----------|--------|--------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 7.4 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 172.4 | 267.1 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 100.2 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 267.1 | 189.3 |
| 16.667 | | 60.65 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 2358.1 | 2437.9 |
| 18.500 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 189.3 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 2437.9 | 2433.2 |
| 18.583 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 45.5 |
| 16.417 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 2433.2 | 2437.2 |
| 18.583 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 45.5 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 2437.2 | 2433.0 |
| 18.667 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 130.5 |
| 16.500 | | | | | | |
| | 503.00 | 503.00 | Flow-Through Basin: | Stream #2 | 130.5 | 28.1 |
| 18.917 | | 48.92 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 28.1 | 28.1 |
| 19.083 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 2433.0 | 2461.0 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 28.1 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 2461.0 | 2455.1 |
| 18.750 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 38.5 |
| 16.333 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 2455.1 | 2458.8 |
| 18.750 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 38.5 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 46.7 |
| 16.333 | | | | | | |

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: [EV0533CC.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 |
-----+-----+-----+
| 221.00 221.00| Flowby Basin Model: Stream #2| 46.7 14.9|
16.333 | | |
| 221.00 223.00| Flow-Through Basin: Stream #2| 14.9 11.2|
17.417 | 3.36| |
| 221.00 222.00| Flow-Through Basin: Stream #5| 31.8 5.4|
18.500 | 5.19| |
| 223.00 222.00| Stream #5 Added to: Stream #2| 11.2 16.5|
17.417 | | |
| 222.00 222.00| Zero Out: Stream #5| 5.4 0.0|
| | |
-----+-----+-----+
| 222.00 129.00| Stream #2 Added to: Stream #1| 2458.8 2473.2|
18.750 | | |
| 129.00 129.00| Zero Out: Stream #2| 16.5 0.0|
| | |
| 129.00 133.00| Convex Routing: Stream #1| 2473.2 2468.4|
18.833 | | |
| 13010.00 132.00| Subarea (UH) Added to Stream #2| 0.0 325.9|
17.000 | | |
| 132.00 132.00| Flowby Basin Model: Stream #2| 325.9 325.9|
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| 325.9 317.1|
17.500 | | |
| 13305.00 133.00| Convex Routing: Stream #2| 317.1 315.2|
17.833 | | |
| 132.00 133.00| Subarea (UH) Added to Stream #3| 0.0 165.1|
16.750 | | |
-----+-----+-----+
| 133.00 133.00| Stream #3 Added to: Stream #2| 315.2 426.3|
17.667 | | |
| 133.00 133.00| Zero Out: Stream #3| 165.1 0.0|
| | |
| 133.00 133.00| Stream #2 Added to: Stream #1| 2468.4 2766.5|
18.417 | | |
| 133.00 133.00| Zero Out: Stream #2| 426.3 0.0|
| | |

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| 133.00 133.00| View: Stream #1| 2766.5|
18.417 | 2471.66| 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 |
-----+-----+-----+

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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 133T *
* ULTIMATE 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 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) = 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, NODE #, MODELED (AF), HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Rows include: 13010.00, 17.000, 17.000, 17.750, 17.750, 47.833, 17.000, 69.917, 17.000, 17.667, 17.583, 17.583, 17.583.

|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)
(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 133U *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 5-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV0533UC.DAT
TIME/DATE OF STUDY: 18:45 05/15/2023

** 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 = 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 = 0.328; 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 = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.598
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 = 0.328; 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 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) = 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 = 0.253 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.424; LOW LOSS FRACTION = 0.818
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 = 0.328; 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 | 1142.40 | 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 = 0.313 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.483; LOW LOSS FRACTION = 0.944
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 = 0.328; 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 = 0.331 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 = 0.328; 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 = 0.19; 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 = 0.328; 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 = 0.447 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 = 0.328; 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 | 43.000 |
| 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 = 935.000 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) = 0.491; LOW LOSS FRACTION = 0.953
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 = 0.328; 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 12902.00 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) = 215.00
CHANNEL LENGTH (FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.362; LOW LOSS FRACTION = 0.671
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 = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

FLOW PROCESS FROM NODE 503.00 TO NODE 503.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.219 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.454; LOW LOSS FRACTION = 0.878
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 = 0.328; 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 = 0.286 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 = 0.328; 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 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 NUMBER | Qcenter (CFS) | Qpass (CFS) |
|------------------|---------------|-------------|
| - | 0.00 | 0.00 |
| 1 | 28.00 | 13.60 |
| 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 |

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 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 | 122.96 | 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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*****

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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<<<<<

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 129.00 IS CODE = 11

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

```

+-----+
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0533UC.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 2463.1|
19.333 | |
| 119.00 12603.00| Convex Routing: Stream #1| 2463.1 2434.2|
19.417 | |
| 810.00 809.00| Subarea (UH) Added to Stream #2| 0.0 37.4|
16.250 | |
| 809.00 12603.00| Flow-Through Basin: Stream #2| 37.4 2.2|
24.083 | 9.62|
| 12603.00 12603.00| Stream #2 Added to: Stream #1| 2434.2 2436.3|
19.417 | |
+-----+
| 12603.00 12603.00| Zero Out: Stream #2| 2.2 0.0|
|
| 12603.00 126.00| Convex Routing: Stream #1| 2436.3 2414.6|
19.250 | |
| 920.00 905.00| Subarea (UH) Added to Stream #2| 0.0 67.3|
16.333 | |
| 905.00 126.00| Flow-Through Basin: Stream #2| 67.3 18.5|
17.417 | 11.12|
| 126.00 126.00| Stream #2 Added to: Stream #1| 2414.6 2430.0|
19.250 | |
+-----+
| 126.00 126.00| Zero Out: Stream #2| 18.5 0.0|
|
| 600.00 126.00| Subarea (UH) Added to Stream #2| 0.0 14.9|
16.417 | |
| 126.00 126.00| Stream #2 Added to: Stream #1| 2430.0 2430.8|
19.250 | |
| 126.00 126.00| Zero Out: Stream #2| 14.9 0.0|
|
| 126.00 12720.50| Convex Routing: Stream #1| 2430.8 2428.0|
19.583 | |
+-----+
| 320.00 331.00| Subarea (UH) Added to Stream #2| 0.0 174.4|
16.417 | |
| 400.00 331.00| Subarea (UH) Added to Stream #3| 0.0 106.6|
16.333 | |
| 390.00 331.00| Subarea (UH) Added to Stream #4| 0.0 8.3|
16.500 | |
| 331.00 331.00| Stream #4 Added to: Stream #2| 174.4 181.8|
16.417 | |

```

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|--------|--------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 8.3 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 181.8 | 282.9 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 106.6 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 282.9 | 179.3 |
| 17.167 | | 55.44 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 2428.0 | 2517.2 |
| 19.333 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 179.3 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 2517.2 | 2515.6 |
| 19.500 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 53.5 |
| 16.417 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 2515.6 | 2518.4 |
| 19.500 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 53.5 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 2518.4 | 2517.6 |
| 19.583 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 139.7 |
| 16.500 | | | | | | |
| | 503.00 | 503.00 | Flow-Through Basin: | Stream #2 | 139.7 | 28.4 |
| 18.917 | | 49.19 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 28.4 | 28.4 |
| 19.083 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 2517.6 | 2545.9 |
| 19.583 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 28.4 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 2545.9 | 2544.1 |
| 19.667 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 44.2 |
| 16.333 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 2544.1 | 2547.1 |
| 19.667 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 44.2 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 49.7 |
| 16.333 | | | | | | |

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: [EV0533UC.DAT]

Page: 2 of |

| UPSTREAM TIME (2) TO | DOWNSTREAM MAX. STORAGE | HYDROLOGIC/HYDRAULIC PROCESS | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------------|----------------------------|------------------------------|------------------------|--------------------------|
| 221.00 | 221.00 | Flowby Basin Model: | 49.7 | 15.1 |
| 221.00 | 223.00 | Flow-Through Basin: | 15.1 | 11.2 |
| 221.00 | 222.00 | Flow-Through Basin: | 34.6 | 5.5 |
| 223.00 | 222.00 | Stream #5 Added to: | 11.2 | 16.6 |
| 222.00 | 222.00 | Zero Out: | 5.5 | 0.0 |

| | | | | |
|--------|--------|---------------------|--------|--------|
| 222.00 | 129.00 | Stream #2 Added to: | 2547.1 | 2559.3 |
| 129.00 | 129.00 | Zero Out: | 16.6 | 0.0 |
| 129.00 | 129.00 | View: | | 2559.3 |

| | | | | |
|--------|---------|---|--|--|
| 129.00 | 2205.99 | 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 134C *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 5-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV0534CC.DAT
TIME/DATE OF STUDY: 02:19 08/11/2023

** 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 = 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 = 3.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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 = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.598
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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) = 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 = 0.253 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.424; LOW LOSS FRACTION = 0.818
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933
=====
*****
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 = 0.313 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.483; LOW LOSS FRACTION = 0.944
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.331 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.42; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.447 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 935.000 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) = 0.491; LOW LOSS FRACTION = 0.953
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 12902.00 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) = 215.00
CHANNEL LENGTH (FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.362; LOW LOSS FRACTION = 0.671
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
 3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

 FLOW PROCESS FROM NODE 503.00 TO NODE 503.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

 FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
 CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
 =====

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

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

 FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
 CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.219 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.454; LOW LOSS FRACTION = 0.878
 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
 3-HOUR = 0.740; 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 = 0.286 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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```

*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 28.00 | 13.60 |
| 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
-----

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```

>>>>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 | 122.96 | 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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*****

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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<<<<<
=====
*****
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:

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5-MINUTE = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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<<<<<
=====
***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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.353 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.767
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 3589.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE

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*USER ENTERED "LAG" TIME = 2.180 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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]

Page: 1 of 1

| UPSTREAM TIME (2) | DOWNSTREAM MAX. STORAGE | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) | PROCESS | PEAK (CFS) | PEAK (CFS) |
|-------------------|-------------------------|---------------------|-----------------------|---------------------------------|------------|------------|
| 10100.00 | 119.00 | 0.0 | 2263.6 | Subarea (UH) Added to Stream #1 | 0.0 | 2263.6 |
| 19.333 | | | | | | |
| 119.00 | 12603.00 | 2263.6 | 2243.0 | Convex Routing: Stream #1 | 2263.6 | 2243.0 |
| 19.417 | | | | | | |
| 810.00 | 809.00 | 0.0 | 32.0 | Subarea (UH) Added to Stream #2 | 0.0 | 32.0 |
| 16.250 | | | | | | |
| 809.00 | 12603.00 | 32.0 | 2.1 | Flow-Through Basin: Stream #2 | 32.0 | 2.1 |
| 24.167 | 9.35 | | | | | |
| 12603.00 | 12603.00 | 2243.0 | 2245.2 | Stream #2 Added to: Stream #1 | 2243.0 | 2245.2 |
| 19.417 | | | | | | |
| 12603.00 | 12603.00 | 2.1 | 0.0 | Zero Out: Stream #2 | 2.1 | 0.0 |
| 12603.00 | 126.00 | 2245.2 | 2236.2 | Convex Routing: Stream #1 | 2245.2 | 2236.2 |
| 19.250 | | | | | | |
| 920.00 | 905.00 | 0.0 | 53.9 | Subarea (UH) Added to Stream #2 | 0.0 | 53.9 |
| 16.333 | | | | | | |
| 905.00 | 126.00 | 53.9 | 17.6 | Flow-Through Basin: Stream #2 | 53.9 | 17.6 |
| 17.500 | 10.72 | | | | | |
| 126.00 | 126.00 | 2236.2 | 2250.2 | Stream #2 Added to: Stream #1 | 2236.2 | 2250.2 |
| 19.250 | | | | | | |
| 126.00 | 126.00 | 17.6 | 0.0 | Zero Out: Stream #2 | 17.6 | 0.0 |
| 600.00 | 126.00 | 0.0 | 11.0 | Subarea (UH) Added to Stream #2 | 0.0 | 11.0 |
| 16.417 | | | | | | |
| 126.00 | 126.00 | 2250.2 | 2251.0 | Stream #2 Added to: Stream #1 | 2250.2 | 2251.0 |
| 19.250 | | | | | | |
| 126.00 | 126.00 | 11.0 | 0.0 | Zero Out: Stream #2 | 11.0 | 0.0 |
| 126.00 | 12720.50 | 2251.0 | 2244.1 | Convex Routing: Stream #1 | 2251.0 | 2244.1 |
| 19.417 | | | | | | |
| 320.00 | 331.00 | 0.0 | 156.3 | Subarea (UH) Added to Stream #2 | 0.0 | 156.3 |
| 16.417 | | | | | | |
| 400.00 | 331.00 | 0.0 | 94.0 | Subarea (UH) Added to Stream #3 | 0.0 | 94.0 |
| 16.333 | | | | | | |
| 390.00 | 331.00 | 0.0 | 6.6 | Subarea (UH) Added to Stream #4 | 0.0 | 6.6 |
| 16.500 | | | | | | |
| 331.00 | 331.00 | 156.3 | 162.4 | Stream #4 Added to: Stream #2 | 156.3 | 162.4 |
| 16.417 | | | | | | |

| | | | | | |
|----------|----------|------------------------|-----------|--------|--------|
| 331.00 | 331.00 | Zero Out: | Stream #4 | 6.6 | 0.0 |
| 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 162.4 | 251.2 |
| 16.333 | | | | | |
| 331.00 | 331.00 | Zero Out: | Stream #3 | 94.0 | 0.0 |
| 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 251.2 | 179.9 |
| 16.667 | 60.08 | | | | |
| 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 2244.1 | 2338.7 |
| 18.500 | | | | | |
| 12720.50 | 12720.50 | Zero Out: | Stream #2 | 179.9 | 0.0 |
| 12720.50 | 127.00 | Convex Routing: | Stream #1 | 2338.7 | 2334.7 |
| 18.583 | | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 39.1 |
| 16.417 | | | | | |
| 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 2334.7 | 2338.6 |
| 18.583 | | | | | |
| 127.00 | 127.00 | Zero Out: | Stream #2 | 39.1 | 0.0 |
| 127.00 | 12902.00 | Convex Routing: | Stream #1 | 2338.6 | 2335.1 |
| 18.667 | | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 121.1 |
| 16.500 | | | | | |
| 503.00 | 503.00 | Flow-Through Basin: | Stream #2 | 121.1 | 27.2 |
| 19.000 | 47.91 | | | | |
| 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 27.2 | 27.2 |
| 19.083 | | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 2335.1 | 2362.1 |
| 18.667 | | | | | |
| 12902.00 | 12902.00 | Zero Out: | Stream #2 | 27.2 | 0.0 |
| 12902.00 | 129.00 | Convex Routing: | Stream #1 | 2362.1 | 2357.1 |
| 18.750 | | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 34.0 |
| 16.333 | | | | | |
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 2357.1 | 2360.7 |
| 18.750 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 34.0 | 0.0 |
| 210.00 | 221.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 43.9 |
| 16.333 | | | | | |

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: [EV0534CC.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 |
-----+-----+-----+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 43.9    14.7|
16.333 | | |
| 221.00    223.00| Flow-Through Basin:  Stream #2| 14.7    11.0|
17.417 | 3.33| |
| 221.00    222.00| Flow-Through Basin:  Stream #5| 29.2    5.4|
18.500 | 4.96| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 11.0    16.2|
17.417 | | |
| 222.00    222.00| Zero Out:           Stream #5| 5.4     0.0|
| | |
-----+-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1| 2360.7  2374.9|
18.750 | | |
| 129.00    129.00| Zero Out:           Stream #2| 16.2    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 2374.9  2370.7|
18.833 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0     304.0|
17.000 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 304.0   304.0|
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| 304.0   296.4|
17.500 | | |
| 13305.00  133.00| Convex Routing:     Stream #2| 296.4   294.9|
17.833 | | |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0     154.2|
16.750 | | |
-----+-----+-----+-----+
| 133.00    133.00| Stream #3 Added to:  Stream #2| 294.9   402.5|
17.667 | | |
| 133.00    133.00| Zero Out:           Stream #3| 154.2   0.0|
| | |
| 133.00    133.00| Stream #2 Added to:  Stream #1| 2370.7  2664.4|
18.417 | | |
| 133.00    133.00| Zero Out:           Stream #2| 402.5   0.0|
| | |

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| | | | | | | |
|---|----------|---------|---------------------------------|-----------|--------|--------|
| | 133.00 | 134.00 | Convex Routing: | Stream #1 | 2664.4 | 2661.5 |
| 18.583 | | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | | |
| | 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 159.2 |
| 16.417 | | | | | | |
| | 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 2661.5 | 2695.6 |
| 18.583 | | | | | | |
| | 134.00 | 134.00 | Zero Out: | Stream #2 | 159.2 | 0.0 |
| | | | | | | |
| | 13500.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 136.3 |
| 18.083 | | | | | | |
| | 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 2695.6 | 2828.9 |
| 18.583 | | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | | |
| | 134.00 | 134.00 | Zero Out: | Stream #2 | 136.3 | 0.0 |
| | | | | | | |
| | 134.00 | 134.00 | View: | Stream #1 | | 2828.9 |
| 18.583 | | 2571.91 | 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)
(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 134U *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 5-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV0534UC.DAT
TIME/DATE OF STUDY: 02:20 08/11/2023

** 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 = 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 = 0.304; 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 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 = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.598
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 = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

FLOW PROCESS FROM NODE 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) = 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 = 0.253 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.424; LOW LOSS FRACTION = 0.818
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 = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 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 = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.483; LOW LOSS FRACTION = 0.944
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 = 0.304; 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 = 0.331 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 = 0.304; 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 = 0.57
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22
*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 = 0.447 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 = 0.304; 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 = 935.000 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) = 0.491; LOW LOSS FRACTION = 0.953
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 = 0.304; 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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.362; LOW LOSS FRACTION = 0.671
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 = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

FLOW PROCESS FROM NODE 503.00 TO NODE 503.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.219 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.454; LOW LOSS FRACTION = 0.878
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 = 0.304; 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 = 0.57
3-HOUR = 0.96; 6-HOUR = 1.33; 24-HOUR = 2.22
*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 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 28.00 | 13.60 |
| 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
-----

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

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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 | 122.96 | 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<<<<<
=====
*****
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:

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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 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 = 0.700 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 = 0.304; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.353 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.767
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 = 0.304; 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 *

INPUT FILENAME: [EV0534UC.DAT]

Page: 1 of 1

| UPSTREAM TIME (2) | DOWNSTREAM MAX. STORAGE | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) | PROCESS |
|-------------------|-------------------------|---------------------|-----------------------|---------------------------------|
| 10100.00 | 119.00 | 0.0 | 2345.3 | Subarea (UH) Added to Stream #1 |
| 19.333 | | | | |
| 119.00 | 12603.00 | 2345.3 | 2321.7 | Convex Routing: Stream #1 |
| 19.417 | | | | |
| 810.00 | 809.00 | 0.0 | 33.8 | Subarea (UH) Added to Stream #2 |
| 16.250 | | | | |
| 809.00 | 12603.00 | 33.8 | 2.2 | Flow-Through Basin: Stream #2 |
| 24.167 | 9.53 | | | |
| 12603.00 | 12603.00 | 2321.7 | 2323.8 | Stream #2 Added to: Stream #1 |
| 19.417 | | | | |
| 12603.00 | 12603.00 | 2.2 | 0.0 | Zero Out: Stream #2 |
| 12603.00 | 126.00 | 2323.8 | 2310.4 | Convex Routing: Stream #1 |
| 19.250 | | | | |
| 920.00 | 905.00 | 0.0 | 58.0 | Subarea (UH) Added to Stream #2 |
| 16.333 | | | | |
| 905.00 | 126.00 | 58.0 | 18.0 | Flow-Through Basin: Stream #2 |
| 17.417 | 10.89 | | | |
| 126.00 | 126.00 | 2310.4 | 2325.0 | Stream #2 Added to: Stream #1 |
| 19.250 | | | | |
| 126.00 | 126.00 | 18.0 | 0.0 | Zero Out: Stream #2 |
| 600.00 | 126.00 | 0.0 | 12.2 | Subarea (UH) Added to Stream #2 |
| 16.417 | | | | |
| 126.00 | 126.00 | 2325.0 | 2325.8 | Stream #2 Added to: Stream #1 |
| 19.250 | | | | |
| 126.00 | 126.00 | 12.2 | 0.0 | Zero Out: Stream #2 |
| 126.00 | 12720.50 | 2325.8 | 2319.4 | Convex Routing: Stream #1 |
| 19.583 | | | | |
| 320.00 | 331.00 | 0.0 | 162.4 | Subarea (UH) Added to Stream #2 |
| 16.417 | | | | |
| 400.00 | 331.00 | 0.0 | 98.3 | Subarea (UH) Added to Stream #3 |
| 16.333 | | | | |
| 390.00 | 331.00 | 0.0 | 7.1 | Subarea (UH) Added to Stream #4 |
| 16.500 | | | | |
| 331.00 | 331.00 | 162.4 | 168.9 | Stream #4 Added to: Stream #2 |
| 16.417 | | | | |

| | | | | | |
|----------|----------|------------------------|-----------|--------|--------|
| 331.00 | 331.00 | Zero Out: | Stream #4 | 7.1 | 0.0 |
| 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 168.9 | 262.2 |
| 16.333 | | | | | |
| 331.00 | 331.00 | Zero Out: | Stream #3 | 98.3 | 0.0 |
| 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 262.2 | 185.4 |
| 16.667 | 60.42 | | | | |
| 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 2319.4 | 2406.5 |
| 18.500 | | | | | |
| 12720.50 | 12720.50 | Zero Out: | Stream #2 | 185.4 | 0.0 |
| 12720.50 | 127.00 | Convex Routing: | Stream #1 | 2406.5 | 2402.1 |
| 18.583 | | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 43.4 |
| 16.417 | | | | | |
| 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 2402.1 | 2406.0 |
| 18.583 | | | | | |
| 127.00 | 127.00 | Zero Out: | Stream #2 | 43.4 | 0.0 |
| 127.00 | 12902.00 | Convex Routing: | Stream #1 | 2406.0 | 2402.0 |
| 18.667 | | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 127.1 |
| 16.500 | | | | | |
| 503.00 | 503.00 | Flow-Through Basin: | Stream #2 | 127.1 | 27.9 |
| 18.917 | 48.69 | | | | |
| 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 27.9 | 27.9 |
| 19.083 | | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 2402.0 | 2429.8 |
| 18.667 | | | | | |
| 12902.00 | 12902.00 | Zero Out: | Stream #2 | 27.9 | 0.0 |
| 12902.00 | 129.00 | Convex Routing: | Stream #1 | 2429.8 | 2424.3 |
| 18.750 | | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 37.1 |
| 16.333 | | | | | |
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 2424.3 | 2427.9 |
| 18.750 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 37.1 | 0.0 |
| 210.00 | 221.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 45.9 |
| 16.333 | | | | | |

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: [EV0534UC.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 |
-----+-----
| 221.00 221.00| Flowby Basin Model: Stream #2| 45.9 14.8|
16.333 | | |
| 221.00 223.00| Flow-Through Basin: Stream #2| 14.8 11.1|
17.417 | 3.35| |
| 221.00 222.00| Flow-Through Basin: Stream #5| 31.0 5.4|
18.500 | 5.13| |
| 223.00 222.00| Stream #5 Added to: Stream #2| 11.1 16.4|
17.417 | | |
| 222.00 222.00| Zero Out: Stream #5| 5.4 0.0|
| | |
-----+-----
| 222.00 129.00| Stream #2 Added to: Stream #1| 2427.9 2442.3|
18.750 | | |
| 129.00 129.00| Zero Out: Stream #2| 16.4 0.0|
| | |
| 129.00 133.00| Convex Routing: Stream #1| 2442.3 2437.7|
18.833 | | |
| 13010.00 132.00| Subarea (UH) Added to Stream #2| 0.0 317.6|
17.000 | | |
| 132.00 132.00| Flowby Basin Model: Stream #2| 317.6 317.6|
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| 317.6 309.2|
17.500 | | |
| 13305.00 133.00| Convex Routing: Stream #2| 309.2 307.4|
17.833 | | |
| 132.00 133.00| Subarea (UH) Added to Stream #3| 0.0 161.0|
16.750 | | |
-----+-----
| 133.00 133.00| Stream #3 Added to: Stream #2| 307.4 417.7|
17.667 | | |
| 133.00 133.00| Zero Out: Stream #3| 161.0 0.0|
| | |
| 133.00 133.00| Stream #2 Added to: Stream #1| 2437.7 2735.7|
18.417 | | |
| 133.00 133.00| Zero Out: Stream #2| 417.7 0.0|
| | |

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| | | | | | | | |
|---------------------------------|--------|---------|---------------------------------|-----------|--------|--------|--|
| | 133.00 | 134.00 | Convex Routing: | Stream #1 | 2735.7 | 2732.4 | |
| 18.583 | | | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | | | |
| | 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 169.3 | |
| 16.417 | | | | | | | |
| | 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 2732.4 | 2767.0 | |
| 18.583 | | | | | | | |
| | 134.00 | 134.00 | Zero Out: | Stream #2 | 169.3 | 0.0 | |
| | | | | | | | |
| | 134.00 | 134.00 | View: | Stream #1 | | 2767.0 | |
| 18.583 | | 2521.13 | 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 133C *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 10-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV1033CC.DAT
TIME/DATE OF STUDY: 18:35 05/15/2023

** 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 = 2.320 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 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 = 0.191 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.548
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.25; 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 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) = 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 = 0.231 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.750
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 905.00 TO NODE 905.00 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 |

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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<<<<
=====

*****
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 = 0.318 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.905
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 = 0.306 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

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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.899
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.324 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.593
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 50347.00 TO NODE 50347.00 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 = 2.000
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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.212 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.826
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<<<<<

```

=====
*****
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 NUMBER | Qcenter (CFS) | Qpass (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 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 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

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, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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 = 0.637 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

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

=====

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV1033CC.DAT]

Page: 1 of 1

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

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 6535.6 |
| 18.333 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 6535.6 | 6521.1 |
| 18.417 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 66.5 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 66.5 | 23.2 |
| 17.250 | 12.03 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 6521.1 | 6536.4 |
| 18.417 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 23.2 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 6536.4 | 6521.6 |
| 18.500 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 149.6 |
| 16.333 | | | | |
| 905.00 | 905.00 | Flow-Through Basin: Stream #2 | 149.6 | 60.8 |
| 16.500 | 16.82 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 6521.6 | 6549.6 |
| 18.500 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 60.8 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 40.6 |
| 16.417 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 6549.6 | 6552.2 |
| 18.500 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 40.6 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 6552.2 | 6515.8 |
| 18.583 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 263.5 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 172.3 |
| 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 | 263.5 | 282.2 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 21.3 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 282.2 | 454.5 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 172.3 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 454.5 | 309.4 |
| 16.583 | 67.21 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 6515.8 | 6682.7 |
| 18.583 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 309.4 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 6682.7 | 6667.4 |
| 18.667 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 141.6 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 6667.4 | 6679.3 |
| 18.667 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 141.6 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 6679.3 | 6667.2 |
| 18.750 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 300.9 |
| 16.417 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 300.9 | 56.4 |
| 18.500 | 78.67 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 56.4 | 56.4 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 6667.2 | 6723.6 |
| 18.750 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 56.4 | 0.0 |
| | | | | |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 6723.6 | 6711.9 |
| 18.833 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 114.8 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 6711.9 | 6718.8 |
| 18.833 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 114.8 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 80.4 |
| 16.333 | | | | |

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: [EV1033CC.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 |
+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2|      80.4    17.2|
16.333 | | |
| 221.00    223.00| Flow-Through Basin:  Stream #2|      17.2    14.2|
17.417 | 3.76| |
| 221.00    222.00| Flow-Through Basin:  Stream #5|      63.2    14.1|
17.750 | 8.94| |
| 223.00    222.00| Stream #5 Added to:  Stream #2|      14.2    28.2|
17.667 | | |
| 222.00    222.00| Zero Out:                Stream #5|      14.1    0.0|
| | |
+-----+
| 129.00    129.00| Stream #2 Added to:  Stream #1|     6718.8   6743.8|
18.833 | | |
| 129.00    129.00| Zero Out:                Stream #2|       28.2    0.0|
| | |
| 129.00    133.00| Convex Routing:        Stream #1|     6743.8   6733.7|
18.917 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2|         0.0    692.8|
17.000 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2|     692.8    639.2|
17.000 | | |
+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3|       53.5    0.0|
18.000 | 4.15| |
| 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|     639.2    639.2|
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|
69.500 | 0.01| |
| 132.00    132.00| Stream #4 Added to:  Stream #2|     639.2    639.2|
17.000 | | |
| 132.00    132.00| Zero Out:                Stream #4|         0.0    0.0|
| | |
| 132.00   13305.00| Convex Routing:        Stream #2|     639.2    615.1|
17.417 | | |

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| | | | | | |
|---|---------|---------------------------------|-----------|--------|--------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 615.1 | 609.5 |
| 17.833 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | | 0.0 | 327.3 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 609.5 | 784.3 |
| 17.750 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 327.3 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 6733.7 | 7413.2 |
| 17.917 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 784.3 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 133.00 | View: | Stream #1 | | 7413.2 |
| 17.917 | 5580.51 | 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 133T *
* 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 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 = 0.688 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 BODR 2022 - NODE 133U *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 10-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV1033UC.DAT
TIME/DATE OF STUDY: 18:36 05/15/2023

** 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 = 2.320 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 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 = 0.191 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.548
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.25; 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 = 0.328; 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 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 = 0.231 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.750
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 = 0.328; 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 905.00 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 = 0.318 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.905
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 = 0.328; 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 = 0.306 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 = 0.328; 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 = 0.59; 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 = 0.328; 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 = 0.59; 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 = 0.328; 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.899
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 = 0.328; 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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.324 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.593
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 = 0.328; 30-MINUTE = 0.381; 1-HOUR = 0.422
3-HOUR = 0.771; 6-HOUR = 0.897; 24-HOUR = 0.940

FLOW PROCESS FROM NODE 50347.00 TO NODE 50347.00 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 = 2.000
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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.212 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.826
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 = 0.328; 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 = 0.59; 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 = 0.328; 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 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 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
-----

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

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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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*****

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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<<<<<

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 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 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<<<<<

Table with columns: TIME(2) TO PEAK (HR), NODE #, HYDROLOGIC/HYDRAULIC PROCESS, UPSTREAM PEAK (CFS), DOWNSTREAM PEAK (CFS). Includes process details like 'Subarea (UH) Added to Stream #1', 'Convex Routing', and 'Flow-Through Basin'.

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|--------|--------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 23.0 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 299.1 | 482.4 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 183.3 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 482.4 | 325.6 |
| 16.583 | | 67.84 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 6852.0 | 7018.2 |
| 18.583 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 325.6 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 7018.2 | 7003.9 |
| 18.667 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 155.9 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 7003.9 | 7015.6 |
| 18.667 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 155.9 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 7015.6 | 7004.0 |
| 18.750 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 321.7 |
| 16.417 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 321.7 | 57.1 |
| 18.500 | | 79.37 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 57.1 | 57.0 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 7004.0 | 7061.0 |
| 18.750 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 57.0 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 7061.0 | 7047.4 |
| 18.833 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 125.7 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 7047.4 | 7054.3 |
| 18.833 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 125.7 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 85.4 |
| 16.333 | | | | | | |

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: [EV1033UC.DAT]

Page: 2 of |

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

| | | | | | |
|--------|--------|---------------------|-----------|------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 85.4 | 17.5 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 17.5 | 14.2 |
| 17.333 | 3.77 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 67.9 | 14.6 |
| 17.667 | 9.13 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 14.2 | 28.8 |
| 17.583 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 14.6 | 0.0 |
| | | | | | |

| | | | | | |
|--------|---------|---------------------|-----------|--------|--------|
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 7054.3 | 7079.8 |
| 18.833 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 28.8 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 7079.8 | 7067.6 |
| 18.917 | | | | | |
| 133.00 | 133.00 | View: | Stream #1 | | 7067.6 |
| 18.917 | 5178.69 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 10-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV1034CC.DAT
TIME/DATE OF STUDY: 02:13 08/11/2023

** 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 = 2.320 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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 = 0.191 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.548
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.25; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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 = 0.231 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.750
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 905.00 TO NODE 905.00 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 = 0.318 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.905
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.306 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.394 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.899
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

```
*****
FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
=====
```

```
WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.324 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.593
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

FLOW PROCESS FROM NODE 50347.00 TO NODE 50347.00 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 = 2.000
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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.212 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.826
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.268 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 NUMBER | Qcenter (CFS) | Qpass (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 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 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397 3-HOUR = 0.740; 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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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 = 0.637 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.339 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.699
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
 3-HOUR = 0.740; 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 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 6278.0 |
 18.333 | | | |
 | 119.00 12603.00 | Convex Routing: Stream #1 | 6278.0 6264.6 |
 18.417 | | | |
 | 810.00 809.00 | Subarea (UH) Added to Stream #2 | 0.0 63.0 |
 16.250 | | | |
 | 809.00 12603.00 | Flow-Through Basin: Stream #2 | 63.0 22.2 |
 17.250 | 11.98 | | |
 | 12603.00 12603.00 | Stream #2 Added to: Stream #1 | 6264.6 6279.9 |
 18.417 | | | |

+-----+
 | 12603.00 12603.00 | Zero Out: Stream #2 | 22.2 0.0 |
 | | | |
 | 12603.00 126.00 | Convex Routing: Stream #1 | 6279.9 6266.9 |
 18.500 | | | |
 | 920.00 905.00 | Subarea (UH) Added to Stream #2 | 0.0 140.5 |
 16.333 | | | |
 | 905.00 905.00 | Flow-Through Basin: Stream #2 | 140.5 52.4 |
 16.583 | 16.69 | | |
 | 126.00 126.00 | Stream #2 Added to: Stream #1 | 6266.9 6295.0 |
 18.500 | | | |

+-----+
 | 126.00 126.00 | Zero Out: Stream #2 | 52.4 0.0 |
 | | | |
 | 600.00 126.00 | Subarea (UH) Added to Stream #2 | 0.0 37.8 |
 16.417 | | | |
 | 126.00 126.00 | Stream #2 Added to: Stream #1 | 6295.0 6297.5 |
 18.500 | | | |
 | 126.00 126.00 | Zero Out: Stream #2 | 37.8 0.0 |
 | | | |
 | 126.00 12720.50 | Convex Routing: Stream #1 | 6297.5 6259.7 |
 18.583 | | | |

+-----+
 | 320.00 331.00 | Subarea (UH) Added to Stream #2 | 0.0 253.0 |
 16.333 | | | |
 | 400.00 331.00 | Subarea (UH) Added to Stream #3 | 0.0 164.7 |
 16.333 | | | |
 | 390.00 331.00 | Subarea (UH) Added to Stream #4 | 0.0 20.0 |
 16.500 | | | |
 | 331.00 331.00 | Stream #4 Added to: Stream #2 | 253.0 270.6 |
 16.333 | | | |

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|--------|--------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 20.0 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 270.6 | 435.3 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 164.7 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 435.3 | 297.0 |
| 16.583 | | 66.73 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 6259.7 | 6427.3 |
| 18.583 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 297.0 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 6427.3 | 6411.6 |
| 18.667 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 131.8 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 6411.6 | 6423.5 |
| 18.667 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 131.8 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 6423.5 | 6411.3 |
| 18.750 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 285.9 |
| 16.417 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 285.9 | 55.9 |
| 18.500 | | 78.15 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 55.9 | 55.9 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 6411.3 | 6467.2 |
| 18.750 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 55.9 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 6467.2 | 6456.8 |
| 18.833 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 107.2 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 6456.8 | 6463.7 |
| 18.833 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 107.2 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 76.8 |
| 16.333 | | | | | | |

[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 *

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| UPSTREAM TIME (2) TO | DOWNSTREAM MAX. STORAGE | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------------|----------------------------|------------------------|--------------------------|
| 221.00 | 221.00 | 76.8 | 17.0 |
| 221.00 | 223.00 | 17.0 | 14.1 |
| 221.00 | 222.00 | 59.9 | 13.6 |
| 223.00 | 222.00 | 14.1 | 27.7 |
| 222.00 | 222.00 | 13.6 | 0.0 |

| | | | | | |
|--------|--------|---------------------|-----------|------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 76.8 | 17.0 |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 17.0 | 14.1 |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 59.9 | 13.6 |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 14.1 | 27.7 |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 13.6 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 6463.7 | 6488.3 |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 27.7 | 0.0 |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 6488.3 | 6479.7 |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 661.8 |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 661.8 | 614.2 |

| | | | | | |
|--------|--------|---------------------|-----------|-------|-------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 47.6 | 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 | 614.2 | 614.2 |
| 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 | 614.2 | 614.2 |
| 132.00 | 132.00 | Zero Out: | Stream #4 | 0.0 | 0.0 |
| 132.00 | 13305.00 | Convex Routing: | Stream #2 | 614.2 | 591.6 |

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 591.6 | 586.5 |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 313.2 |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 586.5 | 760.2 |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 313.2 | 0.0 |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 6479.7 | 7160.6 |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 760.2 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 7160.6 | 7151.7 |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 380.6 |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 7151.7 | 7252.6 |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 380.6 | 0.0 |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 394.6 |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 7252.6 | 7576.7 |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 394.6 | 0.0 |
| 134.00 | 134.00 | View: | Stream #1 | | 7576.7 |

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 134U *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 10-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV1034UC.DAT
TIME/DATE OF STUDY: 02:13 08/11/2023

** 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 = 2.320 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 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 = 0.191 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.548
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.25; 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 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) = 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 = 0.231 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.750
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 905.00 TO NODE 905.00 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 = 0.318 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.905
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 = 0.306 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.899
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.324 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.593
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 50347.00 TO NODE 50347.00 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 = 2.000
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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.212 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.826
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<<<<<

```

*****
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 NUMBER | Qcenter (CFS) | Qpass (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 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 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.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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 = 0.637 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.339 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.699
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<<<<

=====

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV1034UC.DAT]

Page: 1 of 1

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

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 6454.9 |
| 18.333 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 6454.9 | 6441.5 |
| 18.417 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 65.2 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 65.2 | 22.9 |
| 17.250 | 12.01 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 6441.5 | 6456.8 |
| 18.417 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 22.9 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 6456.8 | 6442.2 |
| 18.500 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 146.4 |
| 16.333 | | | | |
| 905.00 | 905.00 | Flow-Through Basin: Stream #2 | 146.4 | 57.9 |
| 16.500 | 16.78 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 6442.2 | 6470.3 |
| 18.500 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 57.9 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 39.7 |
| 16.417 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 6470.3 | 6472.9 |
| 18.500 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 39.7 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 6472.9 | 6436.0 |
| 18.583 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 259.7 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 169.6 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 20.8 |
| 16.500 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 259.7 | 278.0 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 20.8 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 278.0 | 447.6 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 169.6 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 447.6 | 305.3 |
| 16.583 | 67.05 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 6436.0 | 6603.1 |
| 18.583 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 305.3 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 6603.1 | 6587.8 |
| 18.667 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 138.1 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 6587.8 | 6599.7 |
| 18.667 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 138.1 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 6599.7 | 6587.7 |
| 18.750 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 295.8 |
| 16.417 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 295.8 | 56.2 |
| 18.500 | 78.51 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 56.2 | 56.2 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 6587.7 | 6643.9 |
| 18.750 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 56.2 | 0.0 |
| | | | | |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 6643.9 | 6632.6 |
| 18.833 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 112.1 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 6632.6 | 6639.6 |
| 18.833 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 112.1 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 79.1 |
| 16.333 | | | | |

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: [EV1034UC.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 |
+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 79.1    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| 62.0    13.9|
17.833 | 8.90|
| 223.00    222.00| Stream #5 Added to:  Stream #2| 14.2    28.1|
17.750 |
| 222.00    222.00| Zero Out:           Stream #5| 13.9    0.0|
|
+-----+
| 129.00    129.00| Stream #2 Added to:  Stream #1| 6639.6  6664.4|
18.833 |
| 129.00    129.00| Zero Out:           Stream #2| 28.1    0.0|
|
| 129.00    133.00| Convex Routing:     Stream #1| 6664.4  6654.7|
18.917 |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0    682.0|
17.000 |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 682.0   630.6|
17.000 |
+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 51.5    0.0|
18.000 | 3.92|
| 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| 630.6   630.6|
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| 630.6   630.6|
17.000 |
| 132.00    132.00| Zero Out:           Stream #4| 0.0    0.0|
|
| 132.00    13305.00| Convex Routing:     Stream #2| 630.6   606.9|
17.417 |

```

| | | | | | |
|---------------------------------|---------|-----------------------|-----------|--------|--------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 606.9 | 601.4 |
| 17.833 | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 322.5 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 601.4 | 775.6 |
| 17.750 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 322.5 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 6654.7 | 7336.0 |
| 17.917 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 775.6 | 0.0 |
| | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 7336.0 | 7327.1 |
| 18.167 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 394.8 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 7327.1 | 7426.8 |
| 18.167 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 394.8 | 0.0 |
| | | | | | |
| 134.00 | 134.00 | View: | Stream #1 | | 7426.8 |
| 18.167 | 5683.64 | 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 BODR 2022 - NODE 126 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EVO2126C.DAT
TIME/DATE OF STUDY: 19:01 05/15/2023

** 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 = 0.16; 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 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 = 0.220 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 = 0.13; 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 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) = 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 = 0.13; 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 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 = 0.430 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 = 0.13; 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: [EV02126C.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   528.7|
20.417 | |
| 119.00     12603.00| Convex Routing:      Stream #1|    528.7   526.2|
20.500 | |
| 810.00     809.00| Subarea (UH) Added to Stream #2|      0.0    17.1|
16.250 | |
| 809.00     12603.00| Flow-Through Basin: Stream #2|    17.1    1.6|
22.917 | 5.19|
| 12603.00   12603.00| Stream #2 Added to: Stream #1|    526.2   527.9|
20.500 | |
+-----+-----+-----+
| 12603.00   12603.00| Zero Out:      Stream #2|      1.6    0.0|
|
| 12603.00   126.00| Convex Routing:      Stream #1|    527.9   526.2|
20.583 | |
| 920.00     905.00| Subarea (UH) Added to Stream #2|      0.0    18.9|
16.333 | |
| 905.00     126.00| Flow-Through Basin: Stream #2|    18.9    1.5|
24.167 | 7.02|
| 126.00     126.00| Stream #2 Added to: Stream #1|    526.2   527.7|
20.583 | |
+-----+-----+-----+
| 126.00     126.00| Zero Out:      Stream #2|      1.5    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|    527.7   528.0|
20.583 | |
| 126.00     126.00| Zero Out:      Stream #2|      1.6    0.0|
|
| 126.00     126.00| View:      Stream #1|      528.0|
20.583 | 566.20| 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 BODR 2022 - NODE 127 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV02127C.DAT
TIME/DATE OF STUDY: 18:58 05/15/2023

** 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 = 0.43
3-HOUR = 0.81; 6-HOUR = 1.21; 24-HOUR = 2.14
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.220 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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.52
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.52
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

*****
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 = 0.430 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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.52
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.52
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.29; 1-HOUR = 0.39
3-HOUR = 0.65; 6-HOUR = 0.89; 24-HOUR = 1.52
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.576 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 = 1.52
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 935.000 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 = 0.980
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 = 1.52
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 1

| UPSTREAM TIME (2) TO NODE # PEAK (HR) | DOWNSTREAM MAX. STORAGE NODE # MODELED (AF) | HYDROLOGIC/HYDRAULIC PROCESS FOOTNOTES | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|--|--|---|------------------------|--------------------------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 564.9 |
| 20.417 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 564.9 | 561.6 |
| 20.500 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 18.0 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 18.0 | 1.7 |
| 23.417 | 5.51 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 561.6 | 563.3 |
| 20.500 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 1.7 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 563.3 | 561.1 |
| 20.583 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 19.5 |
| 16.333 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 19.5 | 1.6 |
| 24.250 | 7.42 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 561.1 | 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 | 561.7 |
| 20.750 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 103.2 |
| 16.417 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 56.9 |
| 16.417 | | | | |
| 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 | 103.2 | 104.8 |
| 16.417 | | | | |

| | | | | |
|----------|----------|---------------------------------|-------|-------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 1.8 | 0.0 |
| 16.417 | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 104.8 | 161.7 |
| 16.417 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 56.9 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 161.7 | 78.3 |
| 17.583 | 53.99 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 561.7 | 603.0 |
| 20.750 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 78.3 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 603.0 | 601.9 |
| 20.833 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 4.0 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 601.9 | 602.6 |
| 20.833 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 4.0 | 0.0 |
| | | | | |
| 127.00 | 127.00 | View: Stream #1 | | 602.6 |
| 20.833 | 643.78 | 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

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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV02137C.DAT
TIME/DATE OF STUDY: 02:25 08/11/2023

** 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 = 0.16; 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 = 0.291; 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 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 = 0.220 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 = 0.13; 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 = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

FLOW PROCESS FROM NODE 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) = 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 = 0.13; 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 = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 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 = 0.430 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 = 0.13; 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 = 0.291; 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 = 0.13; 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 = 0.291; 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 = 0.13; 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 = 0.291; 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 = 0.576 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 = 0.28; 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 = 0.291; 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 | 0.66 | 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 = 935.000 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 = 0.980
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 = 0.291; 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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.427 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.434; LOW LOSS FRACTION = 0.737
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 = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

FLOW PROCESS FROM NODE 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 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) = 0.545; LOW LOSS FRACTION = 0.912
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 = 0.291; 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 = 0.309 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 = 0.28; 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 = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
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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 | 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

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*****
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 |

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1
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>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
=====

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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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*****

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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<<<<<

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 = 0.28; 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 = 0.291; 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 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 = 0.13; 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 = 0.291; 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<<<<
=====

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=====
*****
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 = 1691.600 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) = 0.487; LOW LOSS FRACTION = 0.818
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 = 0.291; 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

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*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 = 0.28; 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 = 0.291; 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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.549 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.474; LOW LOSS FRACTION = 0.781
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 = 0.291; 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 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 | 504.2 |
| 20.417 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 504.2 | 503.0 |
| 20.500 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 15.0 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 15.0 | 1.6 |
| 22.917 | 5.12 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 503.0 | 504.6 |
| 20.500 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 1.6 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 504.6 | 503.8 |
| 20.583 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 16.8 |
| 16.333 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 16.8 | 1.5 |
| 24.167 | 6.93 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 503.8 | 505.3 |
| 20.583 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 1.5 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 1.4 |
| 16.500 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 505.3 | 505.6 |
| 20.583 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 1.4 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 505.6 | 505.0 |
| 20.750 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 85.6 |
| 16.417 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 48.0 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 1.5 |
| 16.667 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 85.6 | 87.0 |
| 16.417 | | | | |

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|-------|-------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 1.5 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 87.0 | 134.6 |
| 16.417 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 48.0 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 134.6 | 59.6 |
| 18.167 | | 52.53 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 505.0 | 545.1 |
| 20.000 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 59.6 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 545.1 | 544.5 |
| 20.083 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 3.5 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 544.5 | 545.2 |
| 20.083 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 3.5 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 545.2 | 544.8 |
| 20.250 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 56.6 |
| 16.500 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 56.6 | 7.9 |
| 22.917 | | 28.50 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 7.9 | 7.9 |
| 23.083 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 544.8 | 552.3 |
| 20.250 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 7.9 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 552.3 | 551.9 |
| 21.000 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 8.5 |
| 16.333 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 551.9 | 553.1 |
| 21.000 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 8.5 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 22.9 |
| 16.333 | | | | | | |

|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: [EV02137C.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) |
|--|--|---|------------------------|--------------------------|
|--|--|---|------------------------|--------------------------|

| | | | | | |
|--------|--------|---------------------|-----------|------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 22.9 | 12.4 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 12.4 | 5.1 |
| 18.250 | 2.44 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 10.4 | 3.7 |
| 18.333 | 1.89 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 5.1 | 8.8 |
| 18.250 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 3.7 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|-------|-------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 553.1 | 560.6 |
| 20.333 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 8.8 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 560.6 | 560.1 |
| 20.500 | | | | | |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 130.9 |
| 17.333 | | | | | |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 130.9 | 130.9 |
| 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 | 130.9 | 129.5 |
| 17.917 | | | | | |
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 129.5 | 129.0 |
| 18.250 | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 69.3 |
| 17.000 | | | | | |

| | | | | | |
|--------|--------|---------------------|-----------|-------|-------|
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 129.0 | 188.4 |
| 17.167 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 69.3 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 560.1 | 652.3 |
| 18.917 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 188.4 | 0.0 |

| | | | | | |
|--------|--------|-----------------|-----------|-------|-------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 652.3 | 652.0 |
| 19.167 | | | | | |

| | | | | | |
|----------|--------|-----------------------|-----------|-------|-------|
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 60.4 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 652.0 | 666.1 |
| 19.083 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 60.4 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 47.9 |
| 18.000 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 666.1 | 713.0 |
| 19.000 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|-------|-------|
| 134.00 | 134.00 | Zero Out: | Stream #2 | 47.9 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 713.0 | 712.7 |
| 19.167 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 46.5 |
| 16.583 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 712.7 | 725.8 |
| 18.667 | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 46.5 | 0.0 |

| | | | | | |
|--------|--------|-------|-----------|-------|--|
| 137.00 | 137.00 | View: | Stream #1 | 725.8 | |
| 18.667 | 872.78 | 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

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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EVO2138C.DAT
TIME/DATE OF STUDY: 02:24 08/11/2023

** 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 = 0.31; 1-HOUR = 0.43
3-HOUR = 0.80; 6-HOUR = 1.20; 24-HOUR = 2.11
*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 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 = 0.220 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 = 0.29; 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 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 = 0.29; 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 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 = 0.430 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 = 0.29; 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 = 0.576 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 | 1506.00 | 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 = 935.000 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 = 0.980
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.427 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.434; LOW LOSS FRACTION = 0.737
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 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) = 0.545; LOW LOSS FRACTION = 0.912
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 NUMBER | Qcenter (CFS) | Qpass (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 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 = 0.29; 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 = 1691.600 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) = 0.487; LOW LOSS FRACTION = 0.818
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

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```

*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 = 0.38
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 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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.549 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.474; LOW LOSS FRACTION = 0.781
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 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 = 0.923 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 = 0.14; 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 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]

Page: 1 of 1

| UPSTREAM TIME (2) | DOWNSTREAM MAX. STORAGE | HYDROLOGIC/HYDRAULIC PROCESS | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------|-------------------------|---------------------------------|---------------------|-----------------------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 522.9 |
| 20.417 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 522.9 | 521.8 |
| 20.500 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 15.6 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 15.6 | 1.6 |
| 23.333 | 5.35 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 521.8 | 523.4 |
| 20.500 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 1.6 | 0.0 |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 523.4 | 522.6 |
| 20.583 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 17.4 |
| 16.333 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 17.4 | 1.5 |
| 24.250 | 7.23 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 522.6 | 524.2 |
| 20.583 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 1.5 | 0.0 |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 1.5 |
| 16.500 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 524.2 | 524.4 |
| 20.583 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 1.5 | 0.0 |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 524.4 | 523.8 |
| 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 | 523.8 | 566.3 |
| 20.000 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 67.5 | 0.0 |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 566.3 | 565.7 |
| 20.083 | | | | |
| 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 | 565.7 | 566.5 |
| 20.083 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 3.6 | 0.0 |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 566.5 | 566.0 |
| 20.250 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 58.5 |
| 16.500 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 58.5 | 8.7 |
| 22.417 | 29.31 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 8.7 | 8.7 |
| 22.583 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 566.0 | 574.5 |
| 20.250 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 8.7 | 0.0 |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 574.5 | 573.9 |
| 20.333 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 8.8 |
| 16.333 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 573.9 | 575.3 |
| 20.333 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 8.8 | 0.0 |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 23.7 |
| 16.333 | | | | |

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: [EV02138C.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 |
-----+
| 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| 575.3 583.1|
20.333 | | |
| 129.00 129.00| Zero Out: Stream #2| 9.2 0.0|
| | |
| 129.00 133.00| Convex Routing: Stream #1| 583.1 582.6|
20.500 | | |
| 13010.00 132.00| Subarea (UH) Added to Stream #2| 0.0 134.5|
17.333 | | |
| 132.00 132.00| Flowby Basin Model: Stream #2| 134.5 134.5|
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| 134.5 133.1|
17.917 | | |
| 13305.00 133.00| Convex Routing: Stream #2| 133.1 132.5|
18.250 | | |
| 132.00 133.00| Subarea (UH) Added to Stream #3| 0.0 71.2|
17.000 | | |
-----+
| 133.00 133.00| Stream #3 Added to: Stream #2| 132.5 193.6|
17.167 | | |
| 133.00 133.00| Zero Out: Stream #3| 71.2 0.0|
| | |
| 133.00 133.00| Stream #2 Added to: Stream #1| 582.6 681.5|
18.750 | | |
| 133.00 133.00| Zero Out: Stream #2| 193.6 0.0|
| | |

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| | | | | | |
|---------------|--------|---------------------------------|-----------|-------|-------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 681.5 | 681.2 |
| 19.000 | | | | | |
| +-----+-----+ | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 62.4 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 681.2 | 696.4 |
| 18.917 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 62.4 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 49.4 |
| 18.000 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 696.4 | 745.1 |
| 18.917 | | | | | |
| +-----+-----+ | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 49.4 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 745.1 | 745.0 |
| 19.167 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 47.8 |
| 16.583 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 745.0 | 759.0 |
| 18.750 | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 47.8 | 0.0 |
| | | | | | |
| +-----+-----+ | | | | | |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 759.0 | 758.8 |
| 19.167 | | | | | |
| 137.00 | 138.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 30.4 |
| 17.000 | | | | | |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 758.8 | 773.6 |
| 18.833 | | | | | |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 30.4 | 0.0 |
| | | | | | |
| 138.00 | 138.00 | View: | Stream #1 | | 773.6 |
| 18.833 | 922.23 | 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 139 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 2-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EVO2139C.DAT
TIME/DATE OF STUDY: 02:23 08/11/2023

** 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 = 0.16; 30-MINUTE = 0.30; 1-HOUR = 0.41
3-HOUR = 0.77; 6-HOUR = 1.16; 24-HOUR = 2.04
*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 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 = 0.220 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 = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 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 = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 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 = 0.430 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 = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 = 0.576 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 = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 = 935.000 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 = 0.980
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 12902.00 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) = 215.00
CHANNEL LENGTH (FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.427 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.434; LOW LOSS FRACTION = 0.737
SPECIFIED PEAK RAINFALL DEPTHS (INCH):

5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 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) = 0.545; LOW LOSS FRACTION = 0.912
SPECIFIED PEAK RAINFALL DEPTHS (INCH):

5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45

*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 = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 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 NUMBER | Qcenter (CFS) | Qpass (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
-----

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>>>>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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*****

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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<<<<<
=====
*****
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 = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

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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<<<<<
=====
***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 = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 = 1691.600 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) = 0.487; LOW LOSS FRACTION = 0.818
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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

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*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 = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.549 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.474; LOW LOSS FRACTION = 0.781
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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 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 = 0.923 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 = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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<<<<<
=====

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```

*****
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 139.00 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 = 0.288 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 = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.86; 24-HOUR = 1.45
*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: [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 |
|-----+-----+-----+
| 10100.00    119.00| Subarea (UH) Added to Stream #1|      0.0    506.5|
20.417 |                                     |
| 119.00     12603.00| Convex Routing:      Stream #1|    506.5    505.3|
20.500 |                                     |
| 810.00     809.00| Subarea (UH) Added to Stream #2|      0.0     14.9|
16.250 |                                     |
| 809.00     12603.00| Flow-Through Basin: Stream #2|    14.9     1.6|
22.917 |          5.15|                                     |
| 12603.00    12603.00| Stream #2 Added to: Stream #1|    505.3    507.0|
20.500 |                                     |
|-----+-----+-----+
| 12603.00    12603.00| Zero Out:           Stream #2|      1.6     0.0|
|                                     |
| 12603.00    126.00| Convex Routing:     Stream #1|    507.0    506.2|
20.583 |                                     |
| 920.00     905.00| Subarea (UH) Added to Stream #2|      0.0     16.6|
16.333 |                                     |
| 905.00     126.00| Flow-Through Basin: Stream #2|    16.6     1.5|
24.167 |          6.97|                                     |
| 126.00     126.00| Stream #2 Added to: Stream #1|    506.2    507.7|
20.583 |                                     |
|-----+-----+-----+
| 126.00     126.00| Zero Out:           Stream #2|      1.5     0.0|
|                                     |
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0     1.4|
16.500 |                                     |
| 126.00     126.00| Stream #2 Added to: Stream #1|    507.7    508.0|
20.583 |                                     |
| 126.00     126.00| Zero Out:           Stream #2|      1.4     0.0|
|                                     |
| 126.00    12720.50| Convex Routing:     Stream #1|    508.0    507.4|
20.750 |                                     |
|-----+-----+-----+
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0     84.8|
16.417 |                                     |
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0     47.6|
16.333 |                                     |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0     1.5|
16.667 |                                     |
| 331.00     331.00| Stream #4 Added to: Stream #2|    84.8     86.2|
16.417 |                                     |
|-----+-----+-----+
```

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|-------|-------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 1.5 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 86.2 | 133.4 |
| 16.417 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 47.6 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 133.4 | 60.6 |
| 18.250 | | 52.74 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 507.4 | 548.2 |
| 20.000 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 60.6 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 548.2 | 547.6 |
| 20.083 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 3.4 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 547.6 | 548.3 |
| 20.083 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 3.4 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 548.3 | 547.9 |
| 20.250 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 56.1 |
| 16.500 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 56.1 | 8.0 |
| 22.750 | | 28.62 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 8.0 | 8.0 |
| 22.917 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 547.9 | 555.6 |
| 20.250 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 8.0 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 555.6 | 555.0 |
| 20.333 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 8.4 |
| 16.333 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 555.0 | 556.3 |
| 20.333 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 8.4 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 22.7 |
| 16.333 | | | | | | |

|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 *

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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) |
|--|--|---|------------------------|--------------------------|
|--|--|---|------------------------|--------------------------|

| | | | | | |
|--------|--------|---------------------|-----------|------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 22.7 | 12.3 |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 12.3 | 5.1 |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 10.4 | 3.7 |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 5.1 | 8.9 |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 3.7 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|-------|-------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 556.3 | 563.9 |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 8.9 | 0.0 |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 563.9 | 563.4 |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 130.1 |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 130.1 | 130.1 |

| | | | | | |
|----------|----------|-----------------------|-----------|-------|-------|
| 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 | 130.1 | 128.8 |
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 128.8 | 128.3 |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 68.8 |

| | | | | | |
|--------|--------|---------------------|-----------|-------|-------|
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 128.3 | 187.6 |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 68.8 | 0.0 |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 563.4 | 657.5 |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 187.6 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|-------|-------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 657.5 | 657.3 |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 59.9 |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 657.3 | 671.2 |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 59.9 | 0.0 |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 48.0 |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 671.2 | 718.2 |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 48.0 | 0.0 |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 718.2 | 717.8 |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 46.1 |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 717.8 | 730.6 |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 46.1 | 0.0 |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 730.6 | 730.3 |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 29.4 |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 730.3 | 745.3 |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 29.4 | 0.0 |
| 138.00 | 139.00 | Convex Routing: | Stream #1 | 745.3 | 745.0 |
| 139.00 | 139.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 31.0 |
| 139.00 | 139.00 | Stream #2 Added to: | Stream #1 | 745.0 | 751.6 |
| 139.00 | 139.00 | Zero Out: | Stream #2 | 31.0 | 0.0 |
| 139.00 | 139.00 | View: | Stream #1 | 751.6 | |

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 133C *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 25-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV2533CC.DAT
TIME/DATE OF STUDY: 18:23 05/15/2023

** 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 = 0.308; 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) = 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 = 0.187 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 = 0.308; 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 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 = 0.308; 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 | 1142.40 | 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 = 0.308; 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 = 0.293 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 = 0.248 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

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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.643
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.296 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.518
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.624
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<<<<<

```

*****
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 NUMBER | Qcenter (CFS) | Qpass (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 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 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 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

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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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 = 0.589 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 = 0.308; 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: [EV2533CC.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 18.167 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 14212.9 |
| 119.00 18.083 | 12603.00 | Convex Routing: Stream #1 | 14212.9 | 14136.7 |
| 810.00 16.250 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 93.9 |
| 809.00 16.417 | 12603.00 13.37 | Flow-Through Basin: Stream #2 | 93.9 | 50.9 |
| 12603.00 18.083 | 12603.00 | Stream #2 Added to: Stream #1 | 14136.7 | 14166.8 |

| | | | | |
|--------------------|-----------------|---------------------------------|---------|---------|
| 12603.00 18.250 | 12603.00 | Zero Out: Stream #2 | 50.9 | 0.0 |
| 12603.00 18.250 | 126.00 | Convex Routing: Stream #1 | 14166.8 | 14146.9 |
| 920.00 16.250 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 239.3 |
| 905.00 16.417 | 126.00 18.84 | Flow-Through Basin: Stream #2 | 239.3 | 189.4 |
| 126.00 18.167 | 126.00 | Stream #2 Added to: Stream #1 | 14146.9 | 14213.8 |

| | | | | |
|------------------|----------|---------------------------------|---------|---------|
| 126.00 16.333 | 126.00 | Zero Out: Stream #2 | 189.4 | 0.0 |
| 600.00 18.167 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 68.0 |
| 126.00 18.167 | 126.00 | Stream #2 Added to: Stream #1 | 14213.8 | 14226.1 |
| 126.00 18.333 | 126.00 | Zero Out: Stream #2 | 68.0 | 0.0 |
| 126.00 18.333 | 12720.50 | Convex Routing: Stream #1 | 14226.1 | 14216.6 |

| | | | | |
|------------------|--------|---------------------------------|-------|-------|
| 320.00 16.333 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 353.1 |
| 400.00 16.333 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 233.9 |
| 390.00 16.417 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 38.8 |
| 331.00 16.333 | 331.00 | Stream #4 Added to: Stream #2 | 353.1 | 388.4 |

| | | | | |
|--------------------|----------|-------------------------------|---------|---------|
| 331.00 16.333 | 331.00 | Zero Out: Stream #4 | 38.8 | 0.0 |
| 331.00 16.333 | 331.00 | Stream #3 Added to: Stream #2 | 388.4 | 622.3 |
| 331.00 16.500 | 331.00 | Zero Out: Stream #3 | 233.9 | 0.0 |
| 331.00 16.500 | 331.00 | Flow-Through Basin: Stream #2 | 622.3 | 434.0 |
| 331.00 18.333 | 12720.50 | Stream #2 Added to: Stream #1 | 14216.6 | 14460.4 |
| 12720.50 18.333 | 12720.50 | Zero Out: Stream #2 | 434.0 | 0.0 |

| | | | | |
|--------------------|----------|---------------------------------|---------|---------|
| 12720.50 18.417 | 127.00 | Convex Routing: Stream #1 | 14460.4 | 14441.9 |
| 12710.00 16.500 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 261.9 |
| 127.00 18.417 | 127.00 | Stream #2 Added to: Stream #1 | 14441.9 | 14508.1 |
| 127.00 18.500 | 127.00 | Zero Out: Stream #2 | 261.9 | 0.0 |
| 127.00 18.500 | 12902.00 | Convex Routing: Stream #1 | 14508.1 | 14485.9 |

| | | | | |
|--------------------|--------------------|---------------------------------|---------|---------|
| 50220.00 16.333 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 438.9 |
| 50347.00 18.500 | 50347.00 106.87 | Flow-Through Basin: Stream #2 | 438.9 | 79.3 |
| 50347.00 18.667 | 12902.00 | Convex Routing: Stream #2 | 79.3 | 79.3 |
| 12902.00 18.500 | 12902.00 | Stream #2 Added to: Stream #1 | 14485.9 | 14565.1 |
| 12902.00 18.500 | 12902.00 | Zero Out: Stream #2 | 79.3 | 0.0 |

| | | | | |
|--------------------|--------|---------------------------------|---------|---------|
| 12902.00 16.333 | 129.00 | Convex Routing: Stream #1 | 14565.1 | 14550.1 |
| 50400.00 16.250 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 181.4 |
| 129.00 18.500 | 129.00 | Stream #2 Added to: Stream #1 | 14550.1 | 14570.3 |
| 129.00 18.500 | 129.00 | Zero Out: Stream #2 | 181.4 | 0.0 |
| 210.00 16.333 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 107.6 |

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 |
+-----+
+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
+-----+
+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 107.6    19.0|
16.333 | |
| 221.00    223.00| Flow-Through Basin:  Stream #2| 19.0     15.3|
17.250 | 3.92| |
| 221.00    222.00| Flow-Through Basin:  Stream #5| 88.6     21.7|
17.750 | 12.64| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 15.3     37.0|
17.500 | | |
| 222.00    222.00| Zero Out:           Stream #5| 21.7     0.0|
| | |
+-----+
+-----+
| 129.00    129.00| Stream #2 Added to:  Stream #1| 14570.3  14606.0|
18.500 | | |
| 129.00    129.00| Zero Out:           Stream #2| 37.0     0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 14606.0  14591.6|
18.583 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0     1167.2|
16.917 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1167.2   1022.9|
16.917 | | |
+-----+
+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 144.3    109.1|
17.333 | 19.94| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 109.1    54.6|
17.333 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 54.6     12.7|
18.667 | 4.07| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1022.9   1023.0|
16.917 | | |
| 132.00    132.00| Zero Out:           Stream #3| 12.7     0.0|
| | |
+-----+
+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #4| 54.6     10.8|
18.750 | 4.30| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1023.0   1023.1|
16.917 | | |
| 132.00    132.00| Zero Out:           Stream #4| 10.8     0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1023.1   989.7|
17.417 | | |

```

| | | | | | |
|---|----------|---------------------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 989.7 | 981.7 |
| 17.667 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | | 0.0 | 537.5 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 981.7 | 1332.8 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 537.5 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 14591.6 | 15912.4 |
| 17.667 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1332.8 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 133.00 | View: | Stream #1 | | 15912.4 |
| 17.667 | 13302.43 | 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 *
* 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 #, MODELED (AF), HYDROLOGIC/HYDRAULIC PROCESS, UPSTREAM PEAK (CFS), DOWNSTREAM PEAK (CFS). Rows include process details like 'Subarea (UH) Added to Stream #2', 'Flowby Basin Model', 'Flow-Through Basin', 'Split Hydrograph', 'Convex Routing', and 'Zero Out'.

|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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 25-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV2533UC.DAT
TIME/DATE OF STUDY: 18:24 05/15/2023

** 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 = 0.328; 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) = 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 = 0.187 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 = 0.328; 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 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 = 0.328; 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 | 1142.40 | 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 = 0.328; 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 = 0.293 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 = 0.248 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.643
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.296 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.518
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

 FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
 UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
 CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
 =====

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

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

 FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
 CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.203 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.624
 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<<<<<

```

=====
*****
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 NUMBER | Qcenter (CFS) | Qpass (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 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
-----

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```

>>>>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<<<<<

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 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 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<<<<<

Table with columns: TIME(2) TO PEAK (HR), UPSTREAM NODE #, DOWNSTREAM NODE #, HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Includes summary header: * AES FLOODSCx PROGRAM RESULTS SUMMARY * and input filename: [EV2533UC.DAT].

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|---------|---------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 41.2 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 410.6 | 658.8 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 248.2 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 658.8 | 453.5 |
| 16.500 | | 72.64 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 14564.2 | 14806.6 |
| 18.333 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 453.5 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 14806.6 | 14785.7 |
| 18.417 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 279.9 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 14785.7 | 14850.8 |
| 18.417 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 279.9 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 14850.8 | 14825.9 |
| 18.500 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 468.6 |
| 16.333 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 468.6 | 79.9 |
| 18.500 | | 107.83 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 79.9 | 79.9 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 14825.9 | 14905.7 |
| 18.500 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 79.9 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 14905.7 | 14891.6 |
| 18.500 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 195.4 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 14891.6 | 14911.8 |
| 18.500 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 195.4 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 114.1 |
| 16.333 | | | | | | |

[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: [EV2533UC.DAT]

Page: 2 of |

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

| | | | | | |
|--------|--------|---------------------|-----------|-------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 114.1 | 19.4 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 19.4 | 15.4 |
| 17.250 | 3.94 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 94.7 | 22.1 |
| 17.667 | 12.90 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 15.4 | 37.5 |
| 17.500 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 22.1 | 0.0 |
| | | | | | |

| | | | | | |
|--------|----------|---------------------|-----------|---------|---------|
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 14911.8 | 14947.9 |
| 18.500 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 37.5 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 14947.9 | 14931.5 |
| 18.583 | | | | | |
| 133.00 | 133.00 | View: | Stream #1 | | 14931.5 |
| 18.583 | 12460.27 | 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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Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 ROMP AMENDMENT 2022 - NODE 134C *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 25-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV2534CC.DAT
TIME/DATE OF STUDY: 02:05 08/11/2023

** 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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 = 0.187 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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:

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 1 | 0.00 | 0.00 | 0.000 |
| 2 | 1.00 | 0.80 | 1.520 |
| 3 | 2.00 | 1.30 | 3.150 |
| 4 | 3.00 | 1.60 | 4.900 |
| 5 | 4.00 | 1.80 | 6.790 |
| 6 | 5.00 | 2.10 | 8.810 |
| 7 | 6.00 | 2.30 | 10.970 |
| 8 | 7.00 | 47.90 | 13.270 |
| 9 | 8.00 | 131.60 | 15.720 |
| 10 | 9.00 | 241.70 | 18.320 |
| 11 | 10.00 | 372.80 | 21.060 |

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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

*****
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.248 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.373 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.643
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.296 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.518
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

FLOW PROCESS FROM NODE 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.624
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 NUMBER | Qcenter (CFS) | Qpass (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 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 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 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-12 showing increasing values for depth, outflow, and storage.

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:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-12 showing increasing values for depth, outflow, and storage.

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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.322 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.481
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
 3-HOUR = 0.740; 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 ]
| 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   13931.8|
| 18.167 | | |
| 119.00     12603.00| Convex Routing:      Stream #1|  13931.8   13859.4|
| 18.083 | | |
| 810.00     809.00| Subarea (UH) Added to Stream #2|      0.0     89.4|
| 16.250 | | |
| 809.00     12603.00| Flow-Through Basin:  Stream #2|      89.4     48.3|
| 16.417 | | 13.29|
| 12603.00   12603.00| Stream #2 Added to:  Stream #1|  13859.4   13889.6|
| 18.083 | | |
+-----+
| 12603.00   12603.00| Zero Out:      Stream #2|      48.3     0.0|
| | |
| 12603.00   126.00| Convex Routing:      Stream #1|  13889.6   13872.9|
| 18.250 | | |
| 920.00     905.00| Subarea (UH) Added to Stream #2|      0.0     227.4|
| 16.250 | | |
| 905.00     126.00| Flow-Through Basin:  Stream #2|      227.4    180.8|
| 16.417 | | 18.71|
| 126.00     126.00| Stream #2 Added to:  Stream #1|  13872.9   13939.3|
| 18.250 | | |
+-----+
| 126.00     126.00| Zero Out:      Stream #2|      180.8     0.0|
| | |
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0     64.2|
| 16.333 | | |
| 126.00     126.00| Stream #2 Added to:  Stream #1|  13939.3   13951.4|
| 18.167 | | |
| 126.00     126.00| Zero Out:      Stream #2|      64.2     0.0|
| | |
| 126.00    12720.50| Convex Routing:      Stream #1|  13951.4   13943.6|
| 18.333 | | |
+-----+
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0     339.3|
| 16.333 | | |
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0     223.8|
| 16.333 | | |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0     37.1|
| 16.417 | | |
| 331.00     331.00| Stream #4 Added to:  Stream #2|      339.3    373.2|
| 16.333 | | |

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| | | | | | | |
|---------|----------|----------|-----------------------|-----------|---------|---------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 37.1 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 373.2 | 597.0 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 223.8 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 597.0 | 419.7 |
| 16.500 | | 71.35 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 13943.6 | 14188.7 |
| 18.333 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 419.7 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 14188.7 | 14171.7 |
| 18.417 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 248.9 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 14171.7 | 14238.8 |
| 18.417 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 248.9 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 14238.8 | 14218.7 |
| 18.500 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 418.6 |
| 16.333 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 418.6 | 78.8 |
| 18.500 | | 106.16 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 78.8 | 78.8 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 14218.7 | 14297.5 |
| 18.500 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 78.8 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 14297.5 | 14287.2 |
| 17.583 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 171.6 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 14287.2 | 14329.6 |
| 17.583 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 171.6 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 103.0 |
| 16.333 | | | | | | |

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: [EV2534CC.DAT]

Page: 2 of 1

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

| | | | | | |
|--------|--------|---------------------|-----------|-------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 103.0 | 18.7 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 18.7 | 15.3 |
| 17.250 | 3.91 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 84.3 | 21.4 |
| 17.833 | 12.45 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 15.3 | 36.5 |
| 17.583 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 21.4 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 14329.6 | 14366.1 |
| 17.583 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 36.5 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 14366.1 | 14361.2 |
| 17.667 | | | | | |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1124.5 |
| 16.917 | | | | | |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 1124.5 | 988.3 |
| 16.917 | | | | | |

| | | | | | |
|--------|--------|---------------------|-----------|-------|-------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 136.2 | 101.2 |
| 17.417 | 19.82 | | | | |
| 132.00 | 132.00 | Split Hydrograph: | Stream #3 | 101.2 | 50.6 |
| 17.417 | | | | | |
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 50.6 | 12.4 |
| 18.750 | 3.81 | | | | |
| 132.00 | 132.00 | Stream #3 Added to: | Stream #2 | 988.3 | 988.4 |
| 16.917 | | | | | |
| 132.00 | 132.00 | Zero Out: | Stream #3 | 12.4 | 0.0 |

| | | | | | |
|--------|----------|---------------------|-----------|-------|-------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #4 | 50.6 | 10.4 |
| 18.750 | 4.04 | | | | |
| 132.00 | 132.00 | Stream #4 Added to: | Stream #2 | 988.4 | 988.4 |
| 16.917 | | | | | |
| 132.00 | 132.00 | Zero Out: | Stream #4 | 10.4 | 0.0 |
| | | | | | |
| 132.00 | 13305.00 | Convex Routing: | Stream #2 | 988.4 | 957.1 |
| 17.417 | | | | | |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 957.1 | 949.4 |
| 17.667 | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 518.3 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 949.4 | 1297.8 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 518.3 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 14361.2 | 15650.0 |
| 17.667 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1297.8 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 15650.0 | 15637.3 |
| 17.833 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 601.1 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 15637.3 | 15870.0 |
| 17.750 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 601.1 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 892.5 |
| 17.417 | | | | | |

| | | | | | |
|--------|----------|---------------------|-----------|---------|---------|
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 15870.0 | 16717.4 |
| 17.750 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 892.5 | 0.0 |
| | | | | | |
| 134.00 | 134.00 | View: | Stream #1 | | 16717.4 |
| 17.750 | 14100.83 | 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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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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 25-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV2534UC.DAT
TIME/DATE OF STUDY: 02:06 08/11/2023

** 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 = 0.304; 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 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 = 0.187 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 = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

FLOW PROCESS FROM NODE 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 = 0.304; 30-MINUTE = 0.358; 1-HOUR = 0.405
3-HOUR = 0.750; 6-HOUR = 0.890; 24-HOUR = 0.936

*****
FLOW PROCESS FROM NODE 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 = 0.304; 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 = 0.293 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 = 0.248 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.643
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.296 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.518
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.624
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<<<<
=====

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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 | 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 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
-----

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

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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 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 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.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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 = 0.589 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 = 0.304; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.322 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.481
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<<<<

=====

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV2534UC.DAT]

Page: 1 of 1

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

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 14126.1 |
| 18.167 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 14126.1 | 14052.2 |
| 18.083 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 92.3 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 92.3 | 50.0 |
| 16.417 | 13.34 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 14052.2 | 14082.3 |
| 18.083 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 50.0 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 14082.3 | 14062.8 |
| 18.250 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 235.0 |
| 16.250 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 235.0 | 186.4 |
| 16.417 | 18.79 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 14062.8 | 14129.8 |
| 18.167 | | | | |

| | | | | |
|--------|----------|---------------------------------|---------|---------|
| 126.00 | 126.00 | Zero Out: Stream #2 | 186.4 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 66.6 |
| 16.333 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 14129.8 | 14142.1 |
| 18.167 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 66.6 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 14142.1 | 14132.8 |
| 18.333 | | | | |

| | | | | |
|--------|--------|---------------------------------|-------|-------|
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 348.1 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 230.4 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 38.3 |
| 16.417 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 348.1 | 382.9 |
| 16.333 | | | | |

| | | | | |
|--------|--------|---------------------|------|-----|
| 331.00 | 331.00 | Zero Out: Stream #4 | 38.3 | 0.0 |
| | | | | |

| | | | | |
|----------|----------|-------------------------------|---------|---------|
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 382.9 | 613.3 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 230.4 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 613.3 | 429.1 |
| 16.500 | 71.72 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 14132.8 | 14377.0 |
| 18.333 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 429.1 | 0.0 |
| | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 14377.0 | 14358.9 |
| 18.417 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 257.4 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 14358.9 | 14425.3 |
| 18.417 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 257.4 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 14425.3 | 14403.9 |
| 18.500 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 431.7 |
| 16.333 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 431.7 | 79.1 |
| 18.500 | 106.65 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 79.1 | 79.1 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 14403.9 | 14483.0 |
| 18.500 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 79.1 | 0.0 |
| | | | | |

| | | | | |
|----------|--------|---------------------------------|---------|---------|
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 14483.0 | 14467.8 |
| 18.500 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 177.9 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 14467.8 | 14489.7 |
| 17.583 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 177.9 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 106.0 |
| 16.333 | | | | |

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: [EV2534UC.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 |
-----+
-----+
| 221.00 221.00| Flowby Basin Model: Stream #2| 106.0 18.8|
16.333 | | |
| 221.00 223.00| Flow-Through Basin: Stream #2| 18.8 15.3|
17.250 | 3.92| |
| 221.00 222.00| Flow-Through Basin: Stream #5| 87.1 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|
| | |
-----+
-----+
| 129.00 129.00| Stream #2 Added to: Stream #1| 14489.7 14526.5|
17.583 | | |
| 129.00 129.00| Zero Out: Stream #2| 36.8 0.0|
| | |
| 129.00 133.00| Convex Routing: Stream #1| 14526.5 14522.1|
17.667 | | |
| 13010.00 132.00| Subarea (UH) Added to Stream #2| 0.0 1153.0|
16.917 | | |
| 132.00 132.00| Flowby Basin Model: Stream #2| 1153.0 1011.4|
16.917 | | |
-----+
-----+
| 132.00 132.00| Flow-Through Basin: Stream #3| 141.6 106.6|
17.333 | 19.90| |
| 132.00 132.00| Split Hydrograph: Stream #3| 106.6 53.3|
17.333 | | |
| 132.00 132.00| Flow-Through Basin: Stream #3| 53.3 12.6|
18.667 | 3.99| |
| 132.00 132.00| Stream #3 Added to: Stream #2| 1011.4 1011.5|
16.917 | | |
| 132.00 132.00| Zero Out: Stream #3| 12.6 0.0|
| | |
-----+
-----+
| 132.00 132.00| Flow-Through Basin: Stream #4| 53.3 10.7|
18.750 | 4.21| |
| 132.00 132.00| Stream #4 Added to: Stream #2| 1011.5 1011.5|
16.917 | | |
| 132.00 132.00| Zero Out: Stream #4| 10.7 0.0|
| | |
| 132.00 13305.00| Convex Routing: Stream #2| 1011.5 978.9|
17.417 | | |

```

| | | | | | |
|----------|----------|---------------------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 978.9 | 971.0 |
| 17.667 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | | 0.0 | 531.1 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: Stream #2 | | 971.0 | 1321.3 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 531.1 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: Stream #1 | | 14522.1 | 15833.2 |
| 17.667 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1321.3 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 15833.2 | 15819.8 |
| 17.833 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 620.3 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: Stream #1 | | 15819.8 | 16049.8 |
| 17.833 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 620.3 | 0.0 |
| | | | | | |
| 134.00 | 134.00 | View: | Stream #1 | | 16049.8 |
| 17.833 | 13542.49 | 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 BODR 2022 - NODE 133C *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 50-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV5033CC.DAT
TIME/DATE OF STUDY: 17:47 05/15/2023

** 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 = 2.043 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 = 0.308; 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) = 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 = 0.185 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.391
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 809.00 TO NODE 809.00 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 126.00 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 = 0.219 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.457
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 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 = 0.295 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.732
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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.412 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.610
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.304 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.490
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.200 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.598
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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 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

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*****
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 | 0.320 |
| 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
-----

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```

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

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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<<<<<

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.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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 = 0.308; 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: [EV5033CC.DAT]

Page: 1 of 1

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

| | | | | |
|--------------------|-----------------|---------------------------------|---------|---------|
| 10100.00 18.083 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 17029.5 |
| 119.00 18.083 | 12603.00 | Convex Routing: Stream #1 | 17029.5 | 16914.6 |
| 810.00 16.250 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 107.1 |
| 809.00 16.417 | 809.00 13.74 | Flow-Through Basin: Stream #2 | 107.1 | 62.9 |
| 12603.00 18.083 | 12603.00 | Stream #2 Added to: Stream #1 | 16914.6 | 16949.4 |

| | | | | |
|--------------------|-----------------|---------------------------------|---------|---------|
| 12603.00 18.167 | 12603.00 | Zero Out: Stream #2 | 62.9 | 0.0 |
| 12603.00 16.250 | 126.00 | Convex Routing: Stream #1 | 16949.4 | 16932.7 |
| 920.00 16.417 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 277.8 |
| 905.00 18.167 | 126.00 19.31 | Flow-Through Basin: Stream #2 | 277.8 | 218.6 |
| 126.00 18.167 | 126.00 | Stream #2 Added to: Stream #1 | 16932.7 | 17015.5 |

| | | | | |
|------------------|----------|---------------------------------|---------|---------|
| 126.00 16.333 | 126.00 | Zero Out: Stream #2 | 218.6 | 0.0 |
| 600.00 18.167 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 81.1 |
| 126.00 16.333 | 126.00 | Stream #2 Added to: Stream #1 | 17015.5 | 17030.8 |
| 126.00 16.417 | 126.00 | Zero Out: Stream #2 | 81.1 | 0.0 |
| 126.00 18.250 | 12720.50 | Convex Routing: Stream #1 | 17030.8 | 17023.8 |

| | | | | |
|------------------|--------|---------------------------------|-------|-------|
| 320.00 16.333 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 399.9 |
| 400.00 16.333 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 263.6 |
| 390.00 16.417 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 45.3 |
| 331.00 16.333 | 331.00 | Stream #4 Added to: Stream #2 | 399.9 | 441.4 |

| | | | | |
|--------------------|----------|-------------------------------|---------|---------|
| 331.00 16.333 | 331.00 | Zero Out: Stream #4 | 45.3 | 0.0 |
| 331.00 16.500 | 331.00 | Stream #3 Added to: Stream #2 | 441.4 | 705.0 |
| 331.00 16.500 | 331.00 | Zero Out: Stream #3 | 263.6 | 0.0 |
| 331.00 16.500 | 331.00 | Flow-Through Basin: Stream #2 | 705.0 | 496.2 |
| 331.00 18.250 | 12720.50 | Stream #2 Added to: Stream #1 | 17023.8 | 17304.2 |
| 12720.50 18.333 | 12720.50 | Zero Out: Stream #2 | 496.2 | 0.0 |

| | | | | |
|--------------------|----------|---------------------------------|---------|---------|
| 12720.50 18.333 | 127.00 | Convex Routing: Stream #1 | 17304.2 | 17275.9 |
| 12710.00 16.500 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 306.6 |
| 127.00 18.333 | 127.00 | Stream #2 Added to: Stream #1 | 17275.9 | 17364.4 |
| 127.00 18.333 | 127.00 | Zero Out: Stream #2 | 306.6 | 0.0 |
| 127.00 18.333 | 12902.00 | Convex Routing: Stream #1 | 17364.4 | 17344.8 |

| | | | | |
|--------------------|--------------------|---------------------------------|---------|---------|
| 50220.00 16.333 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 493.7 |
| 50347.00 18.500 | 50347.00 125.82 | Flow-Through Basin: Stream #2 | 493.7 | 91.1 |
| 50347.00 18.667 | 12902.00 | Convex Routing: Stream #2 | 91.1 | 91.1 |
| 12902.00 18.333 | 12902.00 | Stream #2 Added to: Stream #1 | 17344.8 | 17435.5 |
| 12902.00 16.333 | 12902.00 | Zero Out: Stream #2 | 91.1 | 0.0 |

| | | | | |
|--------------------|--------|---------------------------------|---------|---------|
| 12902.00 16.250 | 129.00 | Convex Routing: Stream #1 | 17435.5 | 17420.1 |
| 50400.00 17.500 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 210.5 |
| 129.00 16.333 | 129.00 | Stream #2 Added to: Stream #1 | 17420.1 | 17461.2 |
| 129.00 16.333 | 129.00 | Zero Out: Stream #2 | 210.5 | 0.0 |
| 210.00 16.333 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 121.3 |

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

```

-----+-----
|
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV5033CC.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 |
-----+-----+-----+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 121.3    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| 101.5    27.5|
17.667 | 15.24| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 15.9    43.3|
17.583 | | |
| 222.00    222.00| Zero Out:           Stream #5| 27.5    0.0|
| | |
-----+-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1| 17461.2  17504.5|
17.500 | | |
| 129.00    129.00| Zero Out:           Stream #2| 43.3    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 17504.5  17500.5|
17.583 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0    1358.9|
16.833 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1358.9  1177.9|
16.833 | | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 181.0    170.5|
17.083 | 20.92| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 170.5    85.3|
17.083 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 85.3    18.4|
18.750 | 9.22| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1177.9  1188.5|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #3| 18.4    0.0|
| | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #4| 85.3    18.6|
18.750 | 9.32| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1188.5  1196.7|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #4| 18.6    0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1196.7  1182.1|
17.333 | | |

```


| | | | | | |
|---|----------|---------------------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1182.1 | 1169.5 |
| 17.583 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | | 0.0 | 604.7 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1169.5 | 1606.9 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 604.7 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 17500.5 | 19094.6 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1606.9 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 133.00 | View: | Stream #1 | | 19094.6 |
| 17.583 | 15909.31 | 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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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 *
* 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 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 = 0.625 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 #, PEAK (HR), UPSTREAM, DOWNSTREAM, MAX. STORAGE, HYDROLOGIC/HYDRAULIC PROCESS, PEAK (CFS), FOOTNOTES. Includes summary of stream operations and peak flow data.

|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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 50-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV5033UC.DAT
TIME/DATE OF STUDY: 17:47 05/15/2023

** 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 = 2.043 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 = 0.328; 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) = 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 = 0.185 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.391
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 809.00 TO NODE 809.00 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) = 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 126.00 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 = 0.219 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.457
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 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 = 0.295 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.732
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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.412 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.610
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.304 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.490
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.200 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.598
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<<<<<

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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 = 0.328; 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 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 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 | 0.320 |
| 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<<<<<

Table with columns: TIME(2) TO PEAK (HR), NODE #, HYDROLOGIC/HYDRAULIC PROCESS, UPSTREAM PEAK (CFS), DOWNSTREAM PEAK (CFS). Rows include various routing events like 'Subarea (UH) Added to Stream #1', 'Convex Routing', and 'Flow-Through Basin'.

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|---------|---------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 48.2 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 466.8 | 746.3 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 279.4 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 746.3 | 518.4 |
| 16.500 | | 75.07 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 17439.2 | 17717.9 |
| 18.250 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 518.4 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 17717.9 | 17685.9 |
| 18.333 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 326.7 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 17685.9 | 17772.9 |
| 18.333 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 326.7 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 17772.9 | 17754.7 |
| 18.333 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 526.7 |
| 16.333 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 526.7 | 92.2 |
| 18.500 | | 127.55 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 92.2 | 92.2 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 17754.7 | 17846.6 |
| 18.333 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 92.2 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 17846.6 | 17828.8 |
| 18.417 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 226.7 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 17828.8 | 17854.3 |
| 18.417 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 226.7 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 128.8 |
| 16.333 | | | | | | |

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: [EV5033UC.DAT]

Page: 2 of |

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

| | | | | | |
|--------|--------|---------------------|-----------|-------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 128.8 | 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 | 108.5 | 29.0 |
| 17.583 | 15.50 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 16.1 | 44.9 |
| 17.500 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 29.0 | 0.0 |

| | | | | | |
|--------|----------|---------------------|-----------|---------|---------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 17854.3 | 17896.2 |
| 18.417 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 44.9 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 17896.2 | 17868.8 |
| 18.500 | | | | | |
| 133.00 | 133.00 | View: | Stream #1 | | 17868.8 |
| 18.500 | 14902.24 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 50-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV5034CC.DAT
TIME/DATE OF STUDY: 01:52 08/11/2023

** 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 = 2.043 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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 = 0.185 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.391
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

FLOW PROCESS FROM NODE 809.00 TO NODE 809.00 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 126.00 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 = 0.219 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.457
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933
=====
*****
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 = 0.295 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.732
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.366 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.412 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.610
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.304 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.490
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

FLOW PROCESS FROM NODE 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.200 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.598
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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
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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
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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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 6-HOUR = 0.887; 24-HOUR = 0.933

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FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
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>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
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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 | 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

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FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
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>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
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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 |

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 2 | 1.00 | 0.01 | 0.320 |
| 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 |

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1
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>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
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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<<<<<

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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-12 showing increasing values for depth, outflow, and storage.

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:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-12 showing increasing values for depth, outflow, and storage.

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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 1691.600 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) = 0.243; LOW LOSS FRACTION = 0.452
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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
3-HOUR = 0.740; 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 = 0.293; 30-MINUTE = 0.352; 1-HOUR = 0.397
 3-HOUR = 0.740; 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 ]
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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   16694.0|
18.083 |           |                                     |
| 119.00     12603.00| Convex Routing:      Stream #1| 16694.0   16584.7|
18.083 |           |                                     |
| 810.00     809.00| Subarea (UH) Added to Stream #2|      0.0   102.1|
16.250 |           |                                     |
| 809.00     809.00| Flow-Through Basin: Stream #2| 102.1    60.0|
16.417 | 13.65|                                     |
| 12603.00   12603.00| Stream #2 Added to: Stream #1| 16584.7   16619.7|
18.083 |           |                                     |
+-----+
+-----+
| 12603.00   12603.00| Zero Out:      Stream #2|      60.0    0.0|
|           |                                     |
| 12603.00   126.00| Convex Routing:      Stream #1| 16619.7   16605.1|
18.167 |           |                                     |
| 920.00     126.00| Subarea (UH) Added to Stream #2|      0.0   264.3|
16.250 |           |                                     |
| 905.00     126.00| Flow-Through Basin: Stream #2| 264.3    209.1|
16.417 | 19.16|                                     |
| 126.00     126.00| Stream #2 Added to: Stream #1| 16605.1   16689.2|
18.167 |           |                                     |
+-----+
+-----+
| 126.00     126.00| Zero Out:      Stream #2| 209.1    0.0|
|           |                                     |
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0   76.7|
16.333 |           |                                     |
| 126.00     126.00| Stream #2 Added to: Stream #1| 16689.2   16704.9|
18.167 |           |                                     |
| 126.00     126.00| Zero Out:      Stream #2| 76.7    0.0|
|           |                                     |
| 126.00     12720.50| Convex Routing:      Stream #1| 16704.9   16697.3|
18.250 |           |                                     |
+-----+
+-----+
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0   384.3|
16.333 |           |                                     |
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0   252.4|
16.333 |           |                                     |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0   43.4|
16.417 |           |                                     |
| 331.00     331.00| Stream #4 Added to: Stream #2| 384.3    424.2|
16.333 |           |                                     |

```


| | | | | | | |
|---------|----------|----------|-----------------------|-----------|---------|---------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 43.4 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 424.2 | 676.6 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 252.4 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 676.6 | 480.1 |
| 16.500 | | 73.61 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 16697.3 | 16979.5 |
| 18.250 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 480.1 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 16979.5 | 16953.7 |
| 18.333 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 292.0 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 16953.7 | 17057.1 |
| 17.417 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 292.0 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 17057.1 | 17050.4 |
| 17.500 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 471.2 |
| 16.333 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 471.2 | 90.4 |
| 18.583 | | 124.56 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 90.4 | 90.3 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 17050.4 | 17136.5 |
| 17.500 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 90.3 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 17136.5 | 17132.5 |
| 17.500 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 199.3 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 17132.5 | 17184.7 |
| 17.500 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 199.3 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 116.2 |
| 16.333 | | | | | | |

|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: [EV5034CC.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) |
|--|--|---|------------------------|--------------------------|
|--|--|---|------------------------|--------------------------|

| | | | | | |
|--------|--------|---------------------|-----------|-------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 116.2 | 19.5 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 19.5 | 15.9 |
| 17.250 | 3.99 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 96.6 | 26.5 |
| 17.917 | 15.05 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 15.9 | 42.1 |
| 17.750 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 26.5 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 17184.7 | 17226.6 |
| 17.500 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 42.1 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 17226.6 | 17221.2 |
| 17.583 | | | | | |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1308.2 |
| 16.833 | | | | | |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 1308.2 | 1136.9 |
| 16.833 | | | | | |

| | | | | | |
|--------|--------|---------------------|-----------|--------|--------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 171.3 | 161.6 |
| 17.083 | 20.78 | | | | |
| 132.00 | 132.00 | Split Hydrograph: | Stream #3 | 161.6 | 80.8 |
| 17.083 | | | | | |
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 80.8 | 18.0 |
| 18.833 | 8.83 | | | | |
| 132.00 | 132.00 | Stream #3 Added to: | Stream #2 | 1136.9 | 1147.0 |
| 16.833 | | | | | |
| 132.00 | 132.00 | Zero Out: | Stream #3 | 18.0 | 0.0 |

| | | | | | |
|--------|----------|---------------------|-----------|--------|--------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #4 | 80.8 | 18.4 |
| 18.833 | 8.93 | | | | |
| 132.00 | 132.00 | Stream #4 Added to: | Stream #2 | 1147.0 | 1154.9 |
| 16.833 | | | | | |
| 132.00 | 132.00 | Zero Out: | Stream #4 | 18.4 | 0.0 |
| | | | | | |
| 132.00 | 13305.00 | Convex Routing: | Stream #2 | 1154.9 | 1141.7 |
| 17.333 | | | | | |

| | | | | | |
|----------|--------|-----------------|-----------|--------|--------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1141.7 | 1129.5 |
| 17.583 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|---------|---------|
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 583.3 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1129.5 | 1560.4 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 583.3 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 17221.2 | 18772.5 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1560.4 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 18772.5 | 18756.6 |
| 17.667 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 690.8 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 18756.6 | 19046.6 |
| 17.667 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 690.8 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1055.7 |
| 17.333 | | | | | |

| | | | | | |
|--------|----------|---------------------|-----------|---------|---------|
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 19046.6 | 20054.6 |
| 17.667 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 1055.7 | 0.0 |
| | | | | | |
| 134.00 | 134.00 | View: | Stream #1 | | 20054.6 |
| 17.667 | 16853.89 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 50-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV5034UC.DAT
TIME/DATE OF STUDY: 01:52 08/11/2023

** 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 = 2.043 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 = 0.304; 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 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 = 0.185 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.391
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 809.00 TO NODE 809.00 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 126.00 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 = 0.219 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.457
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 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 = 0.295 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.732
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

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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.412 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.610
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.304 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.490
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.200 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.598
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<<<<<

```

*****
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 NUMBER | Qcenter (CFS) | Qpass (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 | 0.320 |
| 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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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 = 0.304; 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 = 1691.600 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) = 0.243; LOW LOSS FRACTION = 0.452
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<<<<

=====

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV5034UC.DAT]

Page: 1 of 1

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

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 16925.9 |
| 18.083 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 16925.9 | 16813.3 |
| 18.083 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 105.3 |
| 16.250 | | | | |
| 809.00 | 809.00 | Flow-Through Basin: Stream #2 | 105.3 | 61.9 |
| 16.417 | 13.71 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 16813.3 | 16848.2 |
| 18.083 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 61.9 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 16848.2 | 16832.1 |
| 18.167 | | | | |
| 920.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 273.0 |
| 16.250 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 273.0 | 215.3 |
| 16.417 | 19.26 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 16832.1 | 16915.3 |
| 18.167 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 215.3 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 79.6 |
| 16.333 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 16915.3 | 16930.7 |
| 18.167 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 79.6 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 16930.7 | 16923.6 |
| 18.250 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 394.3 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 259.7 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 44.6 |
| 16.417 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 394.3 | 435.2 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 44.6 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 435.2 | 694.9 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 259.7 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 694.9 | 490.7 |
| 16.500 | 74.02 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 16923.6 | 17204.5 |
| 18.250 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 490.7 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 17204.5 | 17176.9 |
| 18.333 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 301.6 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 17176.9 | 17265.8 |
| 18.333 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 301.6 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 17265.8 | 17250.1 |
| 17.500 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 485.5 |
| 16.333 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 485.5 | 90.9 |
| 18.500 | 125.43 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 90.9 | 90.9 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 17250.1 | 17336.9 |
| 17.500 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 90.9 | 0.0 |
| | | | | |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 17336.9 | 17327.0 |
| 17.500 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 206.5 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 17327.0 | 17378.9 |
| 17.500 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 206.5 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 119.5 |
| 16.333 | | | | |

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 *
|
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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 |
-----+-----+-----+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 119.5    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| 99.8    27.2|
17.750 | 15.18| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 15.9    42.9|
17.667 | | |
| 222.00    222.00| Zero Out:           Stream #5| 27.2    0.0|
| | |
-----+-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1| 17378.9  17421.7|
17.500 | | |
| 129.00    129.00| Zero Out:           Stream #2| 42.9    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 17421.7  17417.3|
17.583 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0    1341.4|
16.833 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1341.4  1163.7|
16.833 | | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 177.7    167.5|
17.083 | 20.87| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 167.5    83.7|
17.083 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 83.7    18.3|
18.833 | 9.09| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1163.7  1174.2|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #3| 18.3    0.0|
| | |
-----+-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #4| 83.7    18.5|
18.750 | 9.19| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1174.2  1182.3|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #4| 18.5    0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1182.3  1168.4|
17.333 | | |

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| | | | | | |
|---------------------------------|----------|-----------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1168.4 | 1155.8 |
| 17.583 | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 597.3 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1155.8 | 1591.0 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 597.3 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 17417.3 | 18997.1 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1591.0 | 0.0 |
| | | | | | |
| +-----+-----+-----+-----+-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 18997.1 | 18978.7 |
| 17.750 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 712.2 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 18978.7 | 19264.5 |
| 17.667 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 712.2 | 0.0 |
| | | | | | |
| 134.00 | 134.00 | View: | Stream #1 | 19264.5 | |
| 17.667 | 16192.59 | 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 BODR 2022 - NODE 126 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 5-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV05126C.DAT
TIME/DATE OF STUDY: 18:46 05/15/2023

** 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 = 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 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 = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.598
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 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) = 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 = 0.253 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.424; LOW LOSS FRACTION = 0.818
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 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 = 0.313 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.483; LOW LOSS FRACTION = 0.944
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 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: [EV05126C.DAT]

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

| | | | | | |
|----------|----------|--------|---------------------------------|--------|--------|
| 10100.00 | 119.00 | 19.333 | Subarea (UH) Added to Stream #1 | 0.0 | 2393.6 |
| 119.00 | 12603.00 | 19.417 | Convex Routing: Stream #1 | 2393.6 | 2365.3 |
| 810.00 | 809.00 | 16.250 | Subarea (UH) Added to Stream #2 | 0.0 | 36.6 |
| 809.00 | 12603.00 | 24.083 | Flow-Through Basin: Stream #2 | 36.6 | 2.1 |
| 12603.00 | 12603.00 | 19.417 | Stream #2 Added to: Stream #1 | 2365.3 | 2367.4 |

| | | | | | |
|----------|----------|--------|---------------------------------|--------|--------|
| 12603.00 | 12603.00 | 19.500 | Zero Out: Stream #2 | 2.1 | 0.0 |
| 12603.00 | 126.00 | 16.333 | Convex Routing: Stream #1 | 2367.4 | 2345.8 |
| 920.00 | 905.00 | 17.417 | Subarea (UH) Added to Stream #2 | 0.0 | 65.4 |
| 905.00 | 126.00 | 19.500 | Flow-Through Basin: Stream #2 | 65.4 | 17.8 |
| 126.00 | 126.00 | 19.500 | Stream #2 Added to: Stream #1 | 2345.8 | 2358.9 |

| | | | | | |
|---------|--------|--------|---------------------------------|--------|--------|
| 126.00 | 126.00 | 16.417 | Zero Out: Stream #2 | 17.8 | 0.0 |
| 600.00 | 126.00 | 19.500 | Subarea (UH) Added to Stream #2 | 0.0 | 14.4 |
| 126.00 | 126.00 | 19.500 | Stream #2 Added to: Stream #1 | 2358.9 | 2359.7 |
| 126.00 | 126.00 | 19.500 | Zero Out: Stream #2 | 14.4 | 0.0 |
| 126.00 | 126.00 | 19.500 | View: Stream #1 | | 2359.7 |
| 1954.22 | 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 BODR 2022 - NODE 127 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 5-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV05127C.DAT
TIME/DATE OF STUDY: 18:46 05/15/2023

** 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 = 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 = 0.45; 1-HOUR = 0.63
3-HOUR = 1.17; 6-HOUR = 1.75; 24-HOUR = 3.09
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.598
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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) = 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 = 0.253 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.424; LOW LOSS FRACTION = 0.818
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

*****
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 = 0.313 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.483; LOW LOSS FRACTION = 0.944
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.331 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.447 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 935.000 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) = 0.491; LOW LOSS FRACTION = 0.953
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 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 | 2421.7 |
| 19.333 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 2421.7 | 2393.6 |
| 19.417 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 35.9 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 35.9 | 2.2 |
| 24.083 | 9.38 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 2393.6 | 2395.7 |
| 19.417 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 2.2 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 2395.7 | 2374.0 |
| 19.500 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 63.1 |
| 16.333 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 63.1 | 18.0 |
| 17.417 | 10.92 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 2374.0 | 2387.9 |
| 19.250 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 18.0 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 13.6 |
| 16.417 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 2387.9 | 2388.7 |
| 19.250 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 13.6 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 2388.7 | 2386.6 |
| 19.583 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 170.3 |
| 16.417 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 103.7 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 7.8 |
| 16.500 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 170.3 | 177.3 |
| 16.417 | | | | |

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 7.8 | 0.0 |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 177.3 | 276.1 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 103.7 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 276.1 | 190.5 |
| 16.667 | 60.73 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 2386.6 | 2450.6 |
| 19.333 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 190.5 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 2450.6 | 2449.6 |
| 19.500 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 48.7 |
| 16.417 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 2449.6 | 2452.3 |
| 19.500 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 48.7 | 0.0 |
| | | | | |
| 127.00 | 127.00 | View: Stream #1 | | 2452.3 |
| 19.500 | 2087.95 | 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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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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 5-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV05137C.DAT
TIME/DATE OF STUDY: 02:19 08/11/2023

** 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 = 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 = 3.12
*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 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 = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.598
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 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) = 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 = 0.253 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.424; LOW LOSS FRACTION = 0.818
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 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 = 0.313 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.483; LOW LOSS FRACTION = 0.944
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 = 0.331 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
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 = 0.447 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
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 = 935.000 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) = 0.491; LOW LOSS FRACTION = 0.953
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.362; LOW LOSS FRACTION = 0.671
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 503.00 TO NODE 503.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

 FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
 CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
 =====

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

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

 FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
 CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.219 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.454; LOW LOSS FRACTION = 0.878
 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<<<<<

```

=====
*****
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 NUMBER | Qcenter (CFS) | Qpass (CFS) |
|------------------|---------------|-------------|
| - | 0.00 | 0.00 |
| 1 | 28.00 | 13.60 |
| 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 | 122.96 | 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<<<<<
=====
*****
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)
      -              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 = 0.291; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.353 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.767
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 = 3589.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE

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*USER ENTERED "LAG" TIME = 2.180 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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.440 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.395; LOW LOSS FRACTION = 0.716
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<<<<
=====

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+-----+
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV05137C.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    2248.5|
19.333 |
| 119.00     12603.00| Convex Routing:      Stream #1|    2248.5    2228.5|
19.417 |
| 810.00     809.00| Subarea (UH) Added to Stream #2|      0.0     31.7|
16.250 |
| 809.00     12603.00| Flow-Through Basin: Stream #2|     31.7     2.1|
24.167 |          9.33|
| 12603.00   12603.00| Stream #2 Added to: Stream #1|    2228.5    2230.6|
19.417 |
+-----+
| 12603.00   12603.00| Zero Out:      Stream #2|      2.1     0.0|
|
| 12603.00   126.00| Convex Routing:      Stream #1|    2230.6    2223.1|
19.250 |
| 920.00     905.00| Subarea (UH) Added to Stream #2|      0.0     52.9|
16.333 |
| 905.00     126.00| Flow-Through Basin: Stream #2|     52.9     17.5|
17.500 |          10.69|
| 126.00     126.00| Stream #2 Added to: Stream #1|    2223.1    2237.0|
19.250 |
+-----+
| 126.00     126.00| Zero Out:      Stream #2|     17.5     0.0|
|
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0     10.7|
16.417 |
| 126.00     126.00| Stream #2 Added to: Stream #1|    2237.0    2237.8|
19.250 |
| 126.00     126.00| Zero Out:      Stream #2|     10.7     0.0|
|
| 126.00    12720.50| Convex Routing:      Stream #1|    2237.8    2231.0|
19.333 |
+-----+
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0    155.0|
16.417 |
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0     93.2|
16.333 |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0      6.5|
16.500 |
| 331.00     331.00| Stream #4 Added to: Stream #2|    155.0    161.0|
16.417 |

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| | | | | | | |
|---------|----------|----------|-----------------------|-----------|--------|--------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 6.5 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 161.0 | 249.2 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 93.2 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 249.2 | 178.8 |
| 16.667 | | 60.02 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 2231.0 | 2327.6 |
| 18.500 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 178.8 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 2327.6 | 2323.8 |
| 18.583 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 37.9 |
| 16.417 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 2323.8 | 2327.7 |
| 18.583 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 37.9 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 2327.7 | 2324.2 |
| 18.667 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 119.7 |
| 16.500 | | | | | | |
| | 503.00 | 503.00 | Flow-Through Basin: | Stream #2 | 119.7 | 27.1 |
| 19.000 | | 47.84 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 27.1 | 27.1 |
| 19.083 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 2324.2 | 2351.2 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 27.1 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 2351.2 | 2346.3 |
| 18.750 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 33.2 |
| 16.333 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 2346.3 | 2349.9 |
| 18.750 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 33.2 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 43.5 |
| 16.333 | | | | | | |

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: [EV05137C.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) |
|--|--|---|------------------------|--------------------------|
|--|--|---|------------------------|--------------------------|

| | | | | | |
|--------|--------|---------------------|-----------|------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 43.5 | 14.7 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 14.7 | 10.9 |
| 17.417 | 3.33 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 28.8 | 5.3 |
| 18.500 | 4.94 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 10.9 | 16.2 |
| 17.417 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 5.3 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 2349.9 | 2364.1 |
| 18.750 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 16.2 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 2364.1 | 2360.0 |
| 18.833 | | | | | |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 300.6 |
| 17.000 | | | | | |
| 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 | 2360.0 | 2653.8 |
| 18.417 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 399.0 | 0.0 |

| | | | | | |
|--------|--------|-----------------|-----------|--------|--------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 2653.8 | 2651.0 |
| 18.583 | | | | | |

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 156.7 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 2651.0 | 2685.1 |
| 18.583 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 156.7 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 135.2 |
| 18.083 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 2685.1 | 2817.2 |
| 18.583 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|--------|--------|
| 134.00 | 134.00 | Zero Out: | Stream #2 | 135.2 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 2817.2 | 2814.2 |
| 18.750 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 112.8 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 2814.2 | 2851.1 |
| 18.417 | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 112.8 | 0.0 |

| | | | | | |
|--------|---------|-------|-----------|--------|--|
| 137.00 | 137.00 | View: | Stream #1 | 2851.1 | |
| 18.417 | 2625.04 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 5-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV05138C.DAT
TIME/DATE OF STUDY: 02:18 08/11/2023

** 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 = 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 = 0.287; 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 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 = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.598
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 = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

FLOW PROCESS FROM NODE 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 = 0.253 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.424; LOW LOSS FRACTION = 0.818
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 = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 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 = 0.313 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.483; LOW LOSS FRACTION = 0.944
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 = 0.287; 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 = 0.331 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 = 0.287; 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 = 0.18; 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 = 0.287; 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 = 0.447 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 = 0.287; 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 = 935.000 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) = 0.491; LOW LOSS FRACTION = 0.953
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 = 0.287; 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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.362; LOW LOSS FRACTION = 0.671
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 = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

FLOW PROCESS FROM NODE 503.00 TO NODE 503.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
=====

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.219 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.454; LOW LOSS FRACTION = 0.878
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 = 0.287; 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 = 0.286 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 = 0.287; 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 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 28.00 | 13.60 |
| 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 | 122.96 | 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 = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
*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 NUMBER | Qenter (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 = 0.700 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 = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
*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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.353 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.767
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 = 0.287; 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 = 3589.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE

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*USER ENTERED "LAG" TIME = 2.180 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 = 0.18; 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 = 0.287; 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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.440 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.395; LOW LOSS FRACTION = 0.716
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 = 0.287; 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 = 0.18; 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 = 0.287; 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: [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) |
|--|--|---|------------------------|--------------------------|
|--|--|---|------------------------|--------------------------|

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 2210.6 |
| 19.333 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 2210.6 | 2191.8 |
| 19.417 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 29.6 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 29.6 | 2.1 |
| 24.083 | 9.20 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 2191.8 | 2193.9 |
| 19.417 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 2.1 | 0.0 |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 2193.9 | 2188.4 |
| 19.250 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 46.7 |
| 16.333 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 46.7 | 17.2 |
| 17.500 | 10.53 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 2188.4 | 2201.7 |
| 19.250 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 17.2 | 0.0 |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 8.7 |
| 16.417 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 2201.7 | 2202.5 |
| 19.250 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 8.7 | 0.0 |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 2202.5 | 2196.1 |
| 19.333 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 149.1 |
| 16.417 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 89.2 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 5.7 |
| 16.500 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 149.1 | 154.4 |
| 16.417 | | | | |

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 5.7 | 0.0 |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 154.4 | 240.4 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 89.2 | 0.0 |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 240.4 | 173.7 |
| 16.583 | 59.71 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 2196.1 | 2295.0 |
| 18.500 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 173.7 | 0.0 |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 2295.0 | 2291.5 |
| 18.583 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 30.6 |
| 16.417 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 2291.5 | 2295.3 |
| 18.583 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 30.6 | 0.0 |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 2295.3 | 2292.1 |
| 18.667 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 112.4 |
| 16.500 | | | | |
| 503.00 | 503.00 | Flow-Through Basin: Stream #2 | 112.4 | 26.6 |
| 19.000 | 47.27 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 26.6 | 26.6 |
| 19.167 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 2292.1 | 2318.5 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 26.6 | 0.0 |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 2318.5 | 2313.9 |
| 18.750 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 28.5 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 2313.9 | 2317.4 |
| 18.750 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 28.5 | 0.0 |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 41.7 |
| 16.333 | | | | |

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: [EV05138C.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 |
-----+-----
| 221.00    221.00| Flowby Basin Model:  Stream #2| 41.7    14.5|
16.333 | | |
| 221.00    223.00| Flow-Through Basin:  Stream #2| 14.5    10.8|
17.417 | 3.31| |
| 221.00    222.00| Flow-Through Basin:  Stream #5| 27.1    5.3|
18.500 | 4.84| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 10.8    16.0|
17.417 | | |
| 222.00    222.00| Zero Out:           Stream #5| 5.3     0.0|
| | |
-----+-----
| 222.00    129.00| Stream #2 Added to:  Stream #1| 2317.4  2331.5|
18.750 | | |
| 129.00    129.00| Zero Out:           Stream #2| 16.0    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 2331.5  2327.6|
18.833 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0     283.1|
17.000 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 283.1   283.1|
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| 283.1   277.4|
17.583 | | |
| 13305.00  133.00| Convex Routing:     Stream #2| 277.4   276.0|
17.833 | | |
| 132.00    133.00| Subarea (UH) Added to Stream #3| 0.0     144.4|
16.750 | | |
-----+-----
| 133.00    133.00| Stream #3 Added to:  Stream #2| 276.0   382.0|
17.667 | | |
| 133.00    133.00| Zero Out:           Stream #3| 144.4   0.0|
| | |
| 133.00    133.00| Stream #2 Added to:  Stream #1| 2327.6  2615.4|
18.417 | | |
| 133.00    133.00| Zero Out:           Stream #2| 382.0   0.0|
| | |

```

| | | | | | | |
|---------------|----------|---------|---------------------------------|-----------|--------|--------|
| | 133.00 | 134.00 | Convex Routing: | Stream #1 | 2615.4 | 2612.5 |
| 18.583 | | | | | | |
| +-----+-----+ | | | | | | |
| | 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 142.9 |
| 16.417 | | | | | | |
| | 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 2612.5 | 2646.4 |
| 18.583 | | | | | | |
| | 134.00 | 134.00 | Zero Out: | Stream #2 | 142.9 | 0.0 |
| | | | | | | |
| | 13500.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 128.8 |
| 18.083 | | | | | | |
| | 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 2646.4 | 2772.2 |
| 18.583 | | | | | | |
| +-----+-----+ | | | | | | |
| | 134.00 | 134.00 | Zero Out: | Stream #2 | 128.8 | 0.0 |
| | | | | | | |
| | 134.00 | 137.00 | Convex Routing: | Stream #1 | 2772.2 | 2769.5 |
| 18.750 | | | | | | |
| | 134.00 | 137.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 104.8 |
| 16.500 | | | | | | |
| | 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 2769.5 | 2803.0 |
| 18.417 | | | | | | |
| | 137.00 | 137.00 | Zero Out: | Stream #2 | 104.8 | 0.0 |
| | | | | | | |
| +-----+-----+ | | | | | | |
| | 137.00 | 138.00 | Convex Routing: | Stream #1 | 2803.0 | 2799.8 |
| 18.583 | | | | | | |
| | 137.00 | 138.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 76.8 |
| 16.667 | | | | | | |
| | 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 2799.8 | 2831.9 |
| 18.583 | | | | | | |
| | 138.00 | 138.00 | Zero Out: | Stream #2 | 76.8 | 0.0 |
| | | | | | | |
| | 138.00 | 138.00 | View: | Stream #1 | | 2831.9 |
| 18.583 | | 2638.81 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 5-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV05139C.DAT
TIME/DATE OF STUDY: 02:17 08/11/2023

** 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 = 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 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 = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.598
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 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) = 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 = 0.253 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.424; LOW LOSS FRACTION = 0.818
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 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 = 0.313 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.483; LOW LOSS FRACTION = 0.944
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 = 0.331 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
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 = 0.447 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 = 0.286; 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 = 935.000 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) = 0.491; LOW LOSS FRACTION = 0.953
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 12902.00 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) = 215.00
CHANNEL LENGTH (FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 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) = 0.362; LOW LOSS FRACTION = 0.671
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 503.00 TO NODE 503.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
=====

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.219 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.454; LOW LOSS FRACTION = 0.878
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 NUMBER | Qcenter (CFS) | Qpass (CFS) |
|------------------|---------------|-------------|
| - | 0.00 | 0.00 |
| 1 | 28.00 | 13.60 |
| 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 | 122.96 | 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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*****

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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<<<<<
=====
*****
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 = 0.56
3-HOUR = 0.94; 6-HOUR = 1.30; 24-HOUR = 2.17
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

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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<<<<<
=====
***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 = 0.56
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 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.353 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.767
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 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 = 3589.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE

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*USER ENTERED "LAG" TIME = 2.180 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 = 0.18; 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 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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.440 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.395; LOW LOSS FRACTION = 0.716
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 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 = 0.18; 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 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 = 0.18; 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 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 |
-----+-----+-----+
|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   2199.5|
19.333 |
| 119.00     12603.00| Convex Routing:      Stream #1| 2199.5   2181.1|
19.417 |
| 810.00     809.00| Subarea (UH) Added to Stream #2|      0.0    29.5|
16.250 |
| 809.00     12603.00| Flow-Through Basin: Stream #2|      29.5    2.1|
24.083 |          9.20|
| 12603.00   12603.00| Stream #2 Added to: Stream #1| 2181.1   2183.2|
19.417 |
-----+-----+-----+
| 12603.00   12603.00| Zero Out:      Stream #2|      2.1    0.0|
|
| 12603.00   126.00| Convex Routing:      Stream #1| 2183.2   2177.8|
19.250 |
| 920.00     905.00| Subarea (UH) Added to Stream #2|      0.0    46.3|
16.333 |
| 905.00     126.00| Flow-Through Basin: Stream #2|      46.3    17.1|
17.500 |          10.52|
| 126.00     126.00| Stream #2 Added to: Stream #1| 2177.8   2191.2|
19.250 |
-----+-----+-----+
| 126.00     126.00| Zero Out:      Stream #2|      17.1    0.0|
|
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0    8.5|
16.417 |
| 126.00     126.00| Stream #2 Added to: Stream #1| 2191.2   2192.0|
19.250 |
| 126.00     126.00| Zero Out:      Stream #2|      8.5    0.0|
|
| 126.00     12720.50| Convex Routing:      Stream #1| 2192.0   2185.6|
19.333 |
-----+-----+-----+
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0   148.6|
16.417 |
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0    88.8|
16.333 |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0    5.6|
16.500 |
| 331.00     331.00| Stream #4 Added to: Stream #2| 148.6   153.9|
16.417 |
-----+-----+-----+
```

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|--------|--------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 5.6 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 153.9 | 239.6 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 88.8 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 239.6 | 173.3 |
| 16.583 | | 59.69 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 2185.6 | 2285.2 |
| 18.500 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 173.3 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 2285.2 | 2281.6 |
| 18.583 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 30.2 |
| 16.417 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 2281.6 | 2285.5 |
| 18.583 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 30.2 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 2285.5 | 2282.3 |
| 18.667 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 111.9 |
| 16.500 | | | | | | |
| | 503.00 | 503.00 | Flow-Through Basin: | Stream #2 | 111.9 | 26.6 |
| 19.000 | | 47.25 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 26.6 | 26.6 |
| 19.167 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 2282.3 | 2308.7 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 26.6 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 2308.7 | 2304.2 |
| 18.750 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 28.2 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 2304.2 | 2307.8 |
| 18.750 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 28.2 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 41.5 |
| 16.333 | | | | | | |

|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: [EV05139C.DAT]

Page: 2 of

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

| | | | | | |
|--------|--------|---------------------|-----------|------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 41.5 | 14.5 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 14.5 | 10.8 |
| 17.417 | 3.30 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 27.0 | 5.3 |
| 18.500 | 4.84 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 10.8 | 16.0 |
| 17.417 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 5.3 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 2307.8 | 2321.8 |
| 18.750 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 16.0 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 2321.8 | 2318.0 |
| 18.833 | | | | | |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 282.0 |
| 17.000 | | | | | |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 282.0 | 282.0 |
| 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 | 282.0 | 276.4 |
| 17.583 | | | | | |
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 276.4 | 275.0 |
| 17.833 | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 143.9 |
| 16.750 | | | | | |

| | | | | | |
|--------|--------|---------------------|-----------|--------|--------|
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 275.0 | 380.9 |
| 17.667 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 143.9 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 2318.0 | 2606.1 |
| 18.417 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 380.9 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 2606.1 | 2603.2 |
| 18.583 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 142.0 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 2603.2 | 2637.2 |
| 18.583 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 142.0 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 128.4 |
| 18.083 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 2637.2 | 2762.5 |
| 18.583 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|--------|--------|
| 134.00 | 134.00 | Zero Out: | Stream #2 | 128.4 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 2762.5 | 2760.0 |
| 18.750 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 104.3 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 2760.0 | 2794.1 |
| 18.417 | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 104.3 | 0.0 |

| | | | | | |
|--------|--------|-----------------------|-----------|--------|--------|
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 2794.1 | 2790.9 |
| 18.583 | | | | | |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 76.4 |
| 16.667 | | | | | |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 2790.9 | 2823.0 |
| 18.583 | | | | | |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 76.4 | 0.0 |
| | | | | | |
| 138.00 | 139.00 | Convex Routing: | Stream #1 | 2823.0 | 2822.2 |
| 18.667 | | | | | |

| | | | | | |
|--------|---------|-----------------------|-----------|--------|--------|
| 138.00 | 139.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 60.3 |
| 16.333 | | | | | |
| 139.00 | 139.00 | Stream #2 Added to: | Stream #1 | 2822.2 | 2834.5 |
| 18.667 | | | | | |
| 139.00 | 139.00 | Zero Out: | Stream #2 | 60.3 | 0.0 |
| | | | | | |
| 139.00 | 139.00 | View: | Stream #1 | | 2834.5 |
| 18.667 | 2664.31 | 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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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 BODR 2022 - NODE 126 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 10-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV10126C.DAT
TIME/DATE OF STUDY: 18:37 05/15/2023

** 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 = 2.320 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 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 = 0.191 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.548
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 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) = 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 = 0.231 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.750
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 905.00 TO NODE 905.00 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 |

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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<<<<
=====

*****
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 = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.905
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<<<<

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| * AES FLOODSCx PROGRAM RESULTS SUMMARY *

|

|INPUT FILENAME: [EV10126C.DAT]

Page: 1 of |

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

| | | | | |
|--------------------|----------|---------------------------------|--------|--------|
| 10100.00 18.333 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 7138.1 |
| 119.00 18.417 | 12603.00 | Convex Routing: Stream #1 | 7138.1 | 7117.4 |
| 810.00 16.250 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 76.0 |
| 809.00 17.167 | 12603.00 | Flow-Through Basin: Stream #2 | 76.0 | 25.9 |
| 12603.00 18.417 | 12603.00 | Stream #2 Added to: Stream #1 | 7117.4 | 7132.8 |

| | | | | |
|--------------------|----------|---------------------------------|--------|--------|
| 12603.00 18.500 | 12603.00 | Zero Out: Stream #2 | 25.9 | 0.0 |
| 12603.00 16.333 | 126.00 | Convex Routing: Stream #1 | 7132.8 | 7113.0 |
| 920.00 16.500 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 174.0 |
| 905.00 18.500 | 905.00 | Flow-Through Basin: Stream #2 | 174.0 | 89.2 |
| 126.00 18.500 | 126.00 | Stream #2 Added to: Stream #1 | 7113.0 | 7141.1 |

| | | | | |
|------------------|---------|---------------------------------|--------|--------|
| 126.00 16.417 | 126.00 | Zero Out: Stream #2 | 89.2 | 0.0 |
| 600.00 18.500 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 48.3 |
| 126.00 18.500 | 126.00 | Stream #2 Added to: Stream #1 | 7141.1 | 7143.6 |
| 126.00 18.500 | 126.00 | Zero Out: Stream #2 | 48.3 | 0.0 |
| 126.00 18.500 | 126.00 | View: Stream #1 | | 7143.6 |
| | 4920.95 | 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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Ver. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 BODR 2022 - NODE 127 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 10-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV10127C.DAT
TIME/DATE OF STUDY: 18:37 05/15/2023

** 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 = 2.320 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.191 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.548
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.25; 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.231 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.750
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

*****
FLOW PROCESS FROM NODE 905.00 TO NODE 905.00 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 = 0.318 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.905
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.306 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.26; 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.26; 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.899
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 1

| UPSTREAM TIME (2) | DOWNSTREAM MAX. STORAGE | HYDROLOGIC/HYDRAULIC PROCESS | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------|-------------------------|---------------------------------|---------------------|-----------------------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 6972.0 |
| 18.333 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 6972.0 | 6952.6 |
| 18.417 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 72.7 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 72.7 | 25.0 |
| 17.167 | 12.12 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 6952.6 | 6967.9 |
| 18.417 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 25.0 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 6967.9 | 6949.4 |
| 18.500 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 165.7 |
| 16.333 | | | | |
| 905.00 | 905.00 | Flow-Through Basin: Stream #2 | 165.7 | 78.8 |
| 16.500 | 17.11 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 6949.4 | 6977.4 |
| 18.500 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 78.8 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 45.7 |
| 16.417 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 6977.4 | 6979.9 |
| 18.500 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 45.7 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 6979.9 | 6948.0 |
| 18.583 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 283.1 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 186.3 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 23.5 |
| 16.500 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 283.1 | 303.8 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 23.5 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 303.8 | 490.1 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 186.3 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 490.1 | 330.2 |
| 16.583 | 68.02 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 6948.0 | 7114.0 |
| 18.583 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 330.2 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 7114.0 | 7099.9 |
| 18.667 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 159.8 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 7099.9 | 7111.6 |
| 18.667 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 159.8 | 0.0 |
| | | | | |
| 127.00 | 127.00 | View: Stream #1 | | 7111.6 |
| 18.667 | 5063.52 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 10-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV10137C.DAT
TIME/DATE OF STUDY: 02:12 08/11/2023

** 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 = 2.320 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 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 = 0.191 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.548
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.25; 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 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:

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 1 | 0.00 | 0.00 | 0.000 |
| 2 | 1.00 | 0.80 | 1.520 |
| 3 | 2.00 | 1.30 | 3.150 |
| 4 | 3.00 | 1.60 | 4.900 |
| 5 | 4.00 | 1.80 | 6.790 |
| 6 | 5.00 | 2.10 | 8.810 |
| 7 | 6.00 | 2.30 | 10.970 |
| 8 | 7.00 | 47.90 | 13.270 |
| 9 | 8.00 | 131.60 | 15.720 |
| 10 | 9.00 | 241.70 | 18.320 |
| 11 | 10.00 | 372.80 | 21.060 |

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 = 0.231 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.750
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 905.00 TO NODE 905.00 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 = 0.318 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.905
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 = 0.306 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.899
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.324 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.593
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 50347.00 TO NODE 50347.00 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 = 2.000
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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00
=====

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.212 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.826
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<<<<<

```

=====
*****
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 NUMBER | Qcenter (CFS) | Qpass (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 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 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.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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 = 0.637 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.339 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.699
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<<<<<<
=====

>>>>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<<<<<<
=====

>>>>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<<<<<<
=====

>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<<
=====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
(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<<<<<<
=====

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

WATERSHED AREA = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.446 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.639
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<<<<<<
=====

>>>>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<<<<<<
=====

>>>>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<<<<<<
=====

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

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV10137C.DAT]

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| UPSTREAM TIME (2) | DOWNSTREAM MAX. STORAGE | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) | PROCESS | PEAK (CFS) | PEAK (CFS) |
|-------------------|-------------------------|---------------------|-----------------------|---------------------------------|------------|------------|
| 10100.00 | 119.00 | 0.0 | 6226.0 | Subarea (UH) Added to Stream #1 | 0.0 | 6226.0 |
| 18.333 | | | | | | |
| 119.00 | 12603.00 | 6226.0 | 6212.8 | Convex Routing: Stream #1 | 6226.0 | 6212.8 |
| 18.417 | | | | | | |
| 810.00 | 809.00 | 0.0 | 62.4 | Subarea (UH) Added to Stream #2 | 0.0 | 62.4 |
| 16.250 | | | | | | |
| 809.00 | 12603.00 | 62.4 | 22.0 | Flow-Through Basin: Stream #2 | 62.4 | 22.0 |
| 17.250 | 11.96 | | | | | |
| 12603.00 | 12603.00 | 6212.8 | 6228.0 | Stream #2 Added to: Stream #1 | 6212.8 | 6228.0 |
| 18.417 | | | | | | |
| 12603.00 | 12603.00 | 22.0 | 0.0 | Zero Out: Stream #2 | 22.0 | 0.0 |
| 12603.00 | 126.00 | 6228.0 | 6215.5 | Convex Routing: Stream #1 | 6228.0 | 6215.5 |
| 18.500 | | | | | | |
| 920.00 | 905.00 | 0.0 | 138.9 | Subarea (UH) Added to Stream #2 | 0.0 | 138.9 |
| 16.333 | | | | | | |
| 905.00 | 905.00 | 138.9 | 50.8 | Flow-Through Basin: Stream #2 | 138.9 | 50.8 |
| 16.583 | 16.66 | | | | | |
| 126.00 | 126.00 | 6215.5 | 6243.6 | Stream #2 Added to: Stream #1 | 6215.5 | 6243.6 |
| 18.500 | | | | | | |
| 126.00 | 126.00 | 50.8 | 0.0 | Zero Out: Stream #2 | 50.8 | 0.0 |
| 600.00 | 126.00 | 0.0 | 37.3 | Subarea (UH) Added to Stream #2 | 0.0 | 37.3 |
| 16.417 | | | | | | |
| 126.00 | 126.00 | 6243.6 | 6246.2 | Stream #2 Added to: Stream #1 | 6243.6 | 6246.2 |
| 18.500 | | | | | | |
| 126.00 | 126.00 | 37.3 | 0.0 | Zero Out: Stream #2 | 37.3 | 0.0 |
| 126.00 | 12720.50 | 6246.2 | 6208.3 | Convex Routing: Stream #1 | 6246.2 | 6208.3 |
| 18.583 | | | | | | |
| 320.00 | 331.00 | 0.0 | 251.3 | Subarea (UH) Added to Stream #2 | 0.0 | 251.3 |
| 16.333 | | | | | | |
| 400.00 | 331.00 | 0.0 | 163.4 | Subarea (UH) Added to Stream #3 | 0.0 | 163.4 |
| 16.333 | | | | | | |
| 390.00 | 331.00 | 0.0 | 19.8 | Subarea (UH) Added to Stream #4 | 0.0 | 19.8 |
| 16.500 | | | | | | |
| 331.00 | 331.00 | 251.3 | 268.7 | Stream #4 Added to: Stream #2 | 251.3 | 268.7 |
| 16.333 | | | | | | |

| | | | | | |
|----------|----------|------------------------|-----------|--------|--------|
| 331.00 | 331.00 | Zero Out: | Stream #4 | 19.8 | 0.0 |
| 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 268.7 | 432.1 |
| 16.333 | | | | | |
| 331.00 | 331.00 | Zero Out: | Stream #3 | 163.4 | 0.0 |
| 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 432.1 | 294.6 |
| 16.583 | 66.64 | | | | |
| 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 6208.3 | 6375.9 |
| 18.583 | | | | | |
| 12720.50 | 12720.50 | Zero Out: | Stream #2 | 294.6 | 0.0 |
| 12720.50 | 127.00 | Convex Routing: | Stream #1 | 6375.9 | 6360.3 |
| 18.667 | | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 130.1 |
| 16.500 | | | | | |
| 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 6360.3 | 6372.2 |
| 18.667 | | | | | |
| 127.00 | 127.00 | Zero Out: | Stream #2 | 130.1 | 0.0 |
| 127.00 | 12902.00 | Convex Routing: | Stream #1 | 6372.2 | 6360.1 |
| 18.750 | | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 283.2 |
| 16.417 | | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 283.2 | 55.8 |
| 18.500 | 78.04 | | | | |
| 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 55.8 | 55.8 |
| 18.667 | | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 6360.1 | 6415.8 |
| 18.750 | | | | | |
| 12902.00 | 12902.00 | Zero Out: | Stream #2 | 55.8 | 0.0 |
| 12902.00 | 129.00 | Convex Routing: | Stream #1 | 6415.8 | 6405.4 |
| 18.833 | | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 105.9 |
| 16.250 | | | | | |
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 6405.4 | 6412.4 |
| 18.833 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 105.9 | 0.0 |
| 210.00 | 221.00 | Subarea (UH) Added to: | Stream #2 | 0.0 | 76.2 |
| 16.333 | | | | | |

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: [EV10137C.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 |
+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2|    76.2    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|    59.3    13.5|
17.917 | 8.80| |
| 223.00    222.00| Stream #5 Added to:  Stream #2|    14.1    27.6|
17.833 | | |
| 222.00    222.00| Zero Out:           Stream #5|    13.5    0.0|
| | |
+-----+
| 129.00    129.00| Stream #2 Added to:  Stream #1|   6412.4   6437.0|
18.833 | | |
| 129.00    129.00| Zero Out:           Stream #2|    27.6    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1|   6437.0   6428.4|
18.917 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2|    0.0    656.2|
17.000 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2|    656.2   609.7|
17.000 | | |
+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3|    46.5    0.0|
18.000 | 3.39| |
| 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|   609.7   609.7|
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|
69.500 | 0.01| |
| 132.00    132.00| Stream #4 Added to:  Stream #2|   609.7   609.7|
17.000 | | |
| 132.00    132.00| Zero Out:           Stream #4|    0.0    0.0|
| | |
| 132.00   13305.00| Convex Routing:     Stream #2|   609.7   587.3|
17.417 | | |

```

| | | | | | |
|---|---------|-----------------------|-----------|--------|--------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 587.3 | 582.3 |
| 17.833 | | | | | |
| +-----+-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 310.6 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 582.3 | 755.8 |
| 17.750 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 310.6 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 6428.4 | 7108.3 |
| 17.917 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 755.8 | 0.0 |
| | | | | | |
| +-----+-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 7108.3 | 7099.4 |
| 18.167 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 376.6 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 7099.4 | 7200.7 |
| 18.167 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 376.6 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 391.6 |
| 17.500 | | | | | |
| +-----+-----+ | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 7200.7 | 7523.4 |
| 18.083 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 391.6 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 7523.4 | 7513.8 |
| 18.333 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 243.2 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 7513.8 | 7593.3 |
| 18.333 | | | | | |
| +-----+-----+ | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 243.2 | 0.0 |
| | | | | | |
| 137.00 | 137.00 | View: | Stream #1 | | 7593.3 |
| 18.333 | 5948.98 | 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 138 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 10-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV10138C.DAT
TIME/DATE OF STUDY: 02:11 08/11/2023

** 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 = 2.320 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 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 = 0.191 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.548
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.25; 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 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 = 0.231 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.750
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 905.00 TO NODE 905.00 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 |

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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<<<<
=====

*****
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 = 0.318 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.905
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 = 0.306 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.899
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.324 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.593
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 50347.00 TO NODE 50347.00 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 = 2.000
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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.212 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.826
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<<<<<

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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 = 0.287; 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 NUMBER | Qcenter (CFS) | Qpass (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 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 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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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 = 0.637 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.339 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.699
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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.446 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.639
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 ]
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    6169.8|
18.333 |           |                               |                               |
| 119.00     12603.00| Convex Routing:      Stream #1|  6169.8    6156.7|
18.417 |           |                               |                               |
| 810.00     809.00| Subarea (UH) Added to Stream #2|      0.0     61.7|
16.250 |           |                               |                               |
| 809.00     12603.00| Flow-Through Basin: Stream #2|     61.7     21.8|
17.250 |           |                               |                               |
| 12603.00   12603.00| Stream #2 Added to: Stream #1|  6156.7    6172.0|
18.417 |           |                               |                               |
-----+-----+-----+
| 12603.00   12603.00| Zero Out:           Stream #2|     21.8     0.0|
|           |                               |                               |
| 12603.00   126.00| Convex Routing:      Stream #1|  6172.0    6159.6|
18.500 |           |                               |                               |
| 920.00     905.00| Subarea (UH) Added to Stream #2|      0.0    137.0|
16.333 |           |                               |                               |
| 905.00     905.00| Flow-Through Basin: Stream #2|    137.0     49.1|
16.583 |           |                               |                               |
| 126.00     126.00| Stream #2 Added to: Stream #1|  6159.6    6187.7|
18.500 |           |                               |                               |
-----+-----+-----+
| 126.00     126.00| Zero Out:           Stream #2|     49.1     0.0|
|           |                               |                               |
| 600.00     126.00| Subarea (UH) Added to Stream #2|      0.0     36.8|
16.417 |           |                               |                               |
| 126.00     126.00| Stream #2 Added to: Stream #1|  6187.7    6190.3|
18.500 |           |                               |                               |
| 126.00     126.00| Zero Out:           Stream #2|     36.8     0.0|
|           |                               |                               |
| 126.00    12720.50| Convex Routing:      Stream #1|  6190.3    6152.6|
18.583 |           |                               |                               |
-----+-----+-----+
| 320.00     331.00| Subarea (UH) Added to Stream #2|      0.0    249.2|
16.333 |           |                               |                               |
| 400.00     331.00| Subarea (UH) Added to Stream #3|      0.0    161.8|
16.333 |           |                               |                               |
| 390.00     331.00| Subarea (UH) Added to Stream #4|      0.0     19.5|
16.500 |           |                               |                               |
| 331.00     331.00| Stream #4 Added to: Stream #2|    249.2    266.5|
16.333 |           |                               |                               |
-----+-----+-----+
```

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|--------|--------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 19.5 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 266.5 | 428.3 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 161.8 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 428.3 | 292.0 |
| 16.583 | | 66.54 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 6152.6 | 6320.4 |
| 18.583 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 292.0 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 6320.4 | 6304.6 |
| 18.667 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 128.2 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 6304.6 | 6316.5 |
| 18.667 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 128.2 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 6316.5 | 6304.2 |
| 18.750 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 280.1 |
| 16.417 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 280.1 | 55.7 |
| 18.500 | | 77.93 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 55.7 | 55.6 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 6304.2 | 6359.9 |
| 18.750 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 55.6 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 6359.9 | 6349.7 |
| 18.833 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 104.4 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 6349.7 | 6356.6 |
| 18.833 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 104.4 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 75.5 |
| 16.333 | | | | | | |

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: [EV10138C.DAT]

Page: 2 of 1

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

| | | | | | |
|--------|--------|---------------------|-----------|------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 75.5 | 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 | 58.6 | 13.4 |
| 18.000 | 8.78 | | | | |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 14.1 | 27.5 |
| 17.917 | | | | | |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 13.4 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 6356.6 | 6381.1 |
| 18.833 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 27.5 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 6381.1 | 6372.7 |
| 18.917 | | | | | |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 650.0 |
| 17.000 | | | | | |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 650.0 | 604.7 |
| 17.000 | | | | | |

| | | | | | |
|--------|--------|---------------------|-----------|-------|-------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 45.4 | 0.0 |
| 18.000 | 3.27 | | | | |
| 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 | 604.7 | 604.7 |
| 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 | 604.7 | 604.7 |
| 17.000 | | | | | |
| 132.00 | 132.00 | Zero Out: | Stream #4 | 0.0 | 0.0 |
| | | | | | |
| 132.00 | 13305.00 | Convex Routing: | Stream #2 | 604.7 | 582.6 |
| 17.417 | | | | | |

| | | | | | |
|----------|--------|-----------------|-----------|-------|-------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 582.6 | 577.8 |
| 17.833 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|--------|--------|
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 307.7 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 577.8 | 751.3 |
| 17.750 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 307.7 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 6372.7 | 7051.3 |
| 17.917 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 751.3 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 7051.3 | 7042.3 |
| 18.167 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 372.2 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 7042.3 | 7144.0 |
| 18.167 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 372.2 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 388.4 |
| 17.500 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|--------|--------|
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 7144.0 | 7464.9 |
| 18.083 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 388.4 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 7464.9 | 7455.4 |
| 18.333 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 240.7 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 7455.4 | 7535.1 |
| 18.333 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|--------|--------|
| 137.00 | 137.00 | Zero Out: | Stream #2 | 240.7 | 0.0 |
| | | | | | |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 7535.1 | 7526.6 |
| 18.500 | | | | | |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 204.2 |
| 16.583 | | | | | |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 7526.6 | 7591.4 |
| 18.417 | | | | | |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 204.2 | 0.0 |

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

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-----+
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV10138C.DAT ]
Page: 3 of |
-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
-----+-----+-----+-----+
| 138.00 138.00| View: Stream #1| 7591.4|
18.417 | 6021.85| 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 |
-----+
-----+

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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 139 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 10-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV10139C.DAT
TIME/DATE OF STUDY: 02:10 08/11/2023

** 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 = 2.320 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 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 = 0.191 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.548
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.25; 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 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<<<<

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*****
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 = 0.231 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.750
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 905.00 TO NODE 905.00 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 |

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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<<<<
=====

*****
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 = 0.318 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.905
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 = 0.306 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

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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.899
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.324 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.593
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 50347.00 TO NODE 50347.00 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 = 2.000
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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.212 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.826
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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
=====

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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 | 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 |

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 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
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>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
=====

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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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*****

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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<<<<<

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 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 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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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

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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 | 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 = 0.637 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.339 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.699
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 = 1191.900 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.446 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.237; LOW LOSS FRACTION = 0.639
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 = 0.259 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<<<<

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV10139C.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) |
|--|--|---|------------------------|--------------------------|
|--|--|---|------------------------|--------------------------|

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 6152.5 |
| 18.333 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 6152.5 | 6138.9 |
| 18.417 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 61.5 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 61.5 | 21.7 |
| 17.250 | 11.95 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 6138.9 | 6154.2 |
| 18.417 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 21.7 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 6154.2 | 6142.1 |
| 18.500 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 136.4 |
| 16.333 | | | | |
| 905.00 | 905.00 | Flow-Through Basin: Stream #2 | 136.4 | 48.5 |
| 16.583 | 16.62 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 6142.1 | 6170.2 |
| 18.500 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 48.5 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 36.6 |
| 16.417 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 6170.2 | 6172.7 |
| 18.500 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 36.6 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 6172.7 | 6134.9 |
| 18.583 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 248.5 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 161.3 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 19.4 |
| 16.500 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 248.5 | 265.7 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|--------|--------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 19.4 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 265.7 | 427.0 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 161.3 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 427.0 | 291.2 |
| 16.583 | 66.50 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 6134.9 | 6302.8 |
| 18.583 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 291.2 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 6302.8 | 6287.2 |
| 18.667 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 127.5 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 6287.2 | 6299.1 |
| 18.667 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 127.5 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 6299.1 | 6286.8 |
| 18.750 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 279.1 |
| 16.417 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 279.1 | 55.6 |
| 18.500 | 77.89 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 55.6 | 55.6 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 6286.8 | 6342.4 |
| 18.750 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 55.6 | 0.0 |
| | | | | |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 6342.4 | 6332.3 |
| 18.833 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 103.8 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 6332.3 | 6339.3 |
| 18.833 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 103.8 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 75.3 |
| 16.333 | | | | |

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: [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 |
+-----+
| 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|
| | |
+-----+
| 129.00    129.00| Stream #2 Added to:  Stream #1|  6339.3   6363.7|
18.833 | | |
| 129.00    129.00| Zero Out:           Stream #2|    27.4    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1|  6363.7   6355.4|
18.917 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2|    0.0    647.9|
17.000 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2|    647.9   603.0|
17.000 | | |
+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3|    45.0    0.0|
18.000 | 3.23| |
| 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|    603.0   603.0|
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|
69.500 | 0.01| |
| 132.00    132.00| Stream #4 Added to:  Stream #2|    603.0   603.0|
17.000 | | |
| 132.00    132.00| Zero Out:           Stream #4|    0.0    0.0|
| | |
| 132.00   13305.00| Convex Routing:     Stream #2|    603.0   581.0|
17.417 | | |

```

| | | | | | |
|----------|--------|-----------------------|-----------|--------|--------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 581.0 | 576.2 |
| 17.833 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 306.8 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 576.2 | 749.4 |
| 17.750 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 306.8 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 6355.4 | 7033.7 |
| 17.917 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 749.4 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 7033.7 | 7024.8 |
| 18.167 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 370.7 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 7024.8 | 7126.6 |
| 18.167 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 370.7 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 387.3 |
| 17.500 | | | | | |
| +-----+ | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 7126.6 | 7446.6 |
| 18.083 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 387.3 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 7446.6 | 7437.3 |
| 18.333 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 239.8 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 7437.3 | 7517.1 |
| 18.333 | | | | | |
| +-----+ | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 239.8 | 0.0 |
| | | | | | |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 7517.1 | 7508.6 |
| 18.500 | | | | | |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 203.5 |
| 16.583 | | | | | |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 7508.6 | 7573.3 |
| 18.500 | | | | | |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 203.5 | 0.0 |
| | | | | | |

|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

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

| INPUT FILENAME: [EV10139C.DAT]

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| UPSTREAM TIME (2) TO | DOWNSTREAM MAX. STORAGE | HYDROLOGIC/HYDRAULIC PROCESS | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------------|----------------------------|------------------------------|------------------------|--------------------------|
| NODE # | NODE # | | | |
| PEAK (HR) | MODELED (AF) | FOOTNOTES | | |
| 138.00 | 139.00 | Convex Routing: | Stream #1 | 7573.3 |
| 18.583 | | | | 7570.3 |
| 138.00 | 139.00 | Subarea (UH) Added to | Stream #2 | 0.0 |
| 16.333 | | | | 127.1 |
| 139.00 | 139.00 | Stream #2 Added to: | Stream #1 | 7570.3 |
| 18.500 | | | | 7592.1 |
| 139.00 | 139.00 | Zero Out: | Stream #2 | 127.1 |
| | | | | 0.0 |
| 139.00 | 139.00 | View: | Stream #1 | 7592.1 |
| 18.500 | 6063.62 | 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. 20.0 Release Date: 06/01/2013 License ID 1237

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 BODR 2022 - NODE 126 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 25-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV25126C.DAT
TIME/DATE OF STUDY: 18:26 05/15/2023

** 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 = 0.187 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 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) = 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
-----

```

>>>>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<<<<

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| * AES FLOODSCx PROGRAM RESULTS SUMMARY *

| INPUT FILENAME: [EV25126C.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 14851.0|

18.167 | | |

| 119.00 12603.00| Convex Routing: Stream #1| 14851.0 14759.8|

18.083 | | |

| 810.00 809.00| Subarea (UH) Added to Stream #2| 0.0 105.3|

16.250 | | |

| 809.00 12603.00| Flow-Through Basin: Stream #2| 105.3 56.9|

16.417 | 13.55| |

| 12603.00 12603.00| Stream #2 Added to: Stream #1| 14759.8 14789.8|

18.083 | | |

-----+-----

-----+-----

| 12603.00 12603.00| Zero Out: Stream #2| 56.9 0.0|

| | |

| 12603.00 126.00| Convex Routing: Stream #1| 14789.8 14767.1|

18.250 | | |

| 920.00 905.00| Subarea (UH) Added to Stream #2| 0.0 268.4|

16.250 | | |

| 905.00 126.00| Flow-Through Basin: Stream #2| 268.4 209.8|

16.417 | 19.17| |

| 126.00 126.00| Stream #2 Added to: Stream #1| 14767.1 14832.7|

18.167 | | |

-----+-----

-----+-----

| 126.00 126.00| Zero Out: Stream #2| 209.8 0.0|

| | |

| 600.00 126.00| Subarea (UH) Added to Stream #2| 0.0 77.5|

16.333 | | |

| 126.00 126.00| Stream #2 Added to: Stream #1| 14832.7 14844.5|

18.167 | | |

| 126.00 126.00| Zero Out: Stream #2| 77.5 0.0|

| | |

| 126.00 126.00| View: Stream #1| 14844.5|

18.167 | 11962.30| 3 |

-----+-----

-----+-----

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-----+-----

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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

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
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Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 BODR 2022 - NODE 127 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 25-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV25127C.DAT
TIME/DATE OF STUDY: 18:24 05/15/2023

** 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.187 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

*****
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.293 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.248 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.643
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 1

| UPSTREAM TIME (2) TO | DOWNSTREAM MAX. STORAGE | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------------|----------------------------|------------------------|--------------------------|
| 10100.00 | 119.00 | 0.0 | 14675.1 |
| 119.00 | 12603.00 | 14675.1 | 14587.4 |
| 810.00 | 809.00 | 0.0 | 102.0 |
| 809.00 | 12603.00 | 102.0 | 55.3 |
| 12603.00 | 12603.00 | 14587.4 | 14617.4 |
| 12603.00 | 126.00 | 14617.4 | 14595.6 |
| 920.00 | 905.00 | 0.0 | 261.5 |
| 905.00 | 126.00 | 261.5 | 204.8 |
| 126.00 | 126.00 | 14595.6 | 14661.2 |
| 126.00 | 126.00 | 204.8 | 0.0 |
| 600.00 | 126.00 | 0.0 | 75.2 |
| 126.00 | 126.00 | 14661.2 | 14673.2 |
| 126.00 | 126.00 | 75.2 | 0.0 |
| 126.00 | 12720.50 | 14673.2 | 14663.3 |
| 320.00 | 331.00 | 0.0 | 378.8 |
| 400.00 | 331.00 | 0.0 | 252.1 |
| 390.00 | 331.00 | 0.0 | 41.9 |
| 331.00 | 331.00 | 378.8 | 416.7 |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 14675.1 |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 14675.1 | 14587.4 |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 102.0 |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 102.0 | 55.3 |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 14587.4 | 14617.4 |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 14617.4 | 14595.6 |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 261.5 |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 261.5 | 204.8 |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 14595.6 | 14661.2 |
| 126.00 | 126.00 | Zero Out: Stream #2 | 204.8 | 0.0 |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 75.2 |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 14661.2 | 14673.2 |
| 126.00 | 126.00 | Zero Out: Stream #2 | 75.2 | 0.0 |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 14673.2 | 14663.3 |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 378.8 |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 252.1 |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 41.9 |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 378.8 | 416.7 |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 55.3 | 0.0 |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 14617.4 | 14595.6 |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 261.5 |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 261.5 | 204.8 |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 14595.6 | 14661.2 |
| 126.00 | 126.00 | Zero Out: Stream #2 | 204.8 | 0.0 |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 75.2 |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 14661.2 | 14673.2 |
| 126.00 | 126.00 | Zero Out: Stream #2 | 75.2 | 0.0 |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 14673.2 | 14663.3 |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 378.8 |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 252.1 |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 41.9 |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 378.8 | 416.7 |

| | | | | |
|--------|----------|---------------------------------|---------|---------|
| 126.00 | 126.00 | Zero Out: Stream #2 | 204.8 | 0.0 |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 75.2 |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 14661.2 | 14673.2 |
| 126.00 | 126.00 | Zero Out: Stream #2 | 75.2 | 0.0 |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 14673.2 | 14663.3 |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 378.8 |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 252.1 |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 41.9 |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 378.8 | 416.7 |

| | | | | |
|--------|----------|---------------------------------|---------|---------|
| 126.00 | 126.00 | Zero Out: Stream #2 | 204.8 | 0.0 |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 75.2 |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 14661.2 | 14673.2 |
| 126.00 | 126.00 | Zero Out: Stream #2 | 75.2 | 0.0 |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 14673.2 | 14663.3 |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 378.8 |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 252.1 |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 41.9 |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 378.8 | 416.7 |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 41.9 | 0.0 |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 416.7 | 668.8 |
| 331.00 | 331.00 | Zero Out: Stream #3 | 252.1 | 0.0 |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 668.8 | 459.0 |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 14663.3 | 14905.3 |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 459.0 | 0.0 |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 14905.3 | 14883.8 |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 284.9 |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 14883.8 | 14948.8 |
| 127.00 | 127.00 | Zero Out: Stream #2 | 284.9 | 0.0 |
| 127.00 | 127.00 | View: Stream #1 | 14948.8 | |

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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 25-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV25137C.DAT
TIME/DATE OF STUDY: 02:04 08/11/2023

** 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 = 0.291; 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 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 = 0.187 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 = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

FLOW PROCESS FROM NODE 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 = 0.291; 30-MINUTE = 0.350; 1-HOUR = 0.394
3-HOUR = 0.738; 6-HOUR = 0.886; 24-HOUR = 0.933

*****
FLOW PROCESS FROM NODE 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 = 0.291; 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 = 0.293 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 = 0.248 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.643
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.296 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.518
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

 FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
 UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
 CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
 =====

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

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

 FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
 CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.203 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.624
 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 NUMBER | Qcenter (CFS) | Qpass (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 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 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 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.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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 = 0.589 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 = 0.291; 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) = 173.00
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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.322 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.481
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 = 1191.900 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 = 0.467
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<<<<<<
=====

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV25137C.DAT]

Page: 1 of 1

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

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 13872.3 |
| 18.167 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 13872.3 | 13800.1 |
| 18.083 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 88.7 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 88.7 | 47.9 |
| 16.417 | 13.27 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 13800.1 | 13830.3 |
| 18.083 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 47.9 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 13830.3 | 13814.5 |
| 18.250 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 225.4 |
| 16.250 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 225.4 | 179.3 |
| 16.417 | 18.68 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 13814.5 | 13881.2 |
| 18.250 | | | | |

| | | | | |
|--------|----------|---------------------------------|---------|---------|
| 126.00 | 126.00 | Zero Out: Stream #2 | 179.3 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 63.5 |
| 16.333 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 13881.2 | 13892.8 |
| 18.167 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 63.5 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 13892.8 | 13885.4 |
| 18.333 | | | | |

| | | | | |
|--------|--------|---------------------------------|-------|-------|
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 336.9 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 222.0 |
| 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 | 336.9 | 370.6 |
| 16.333 | | | | |

| | | | | |
|----------|----------|-------------------------------|---------|---------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 36.8 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 370.6 | 592.6 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 222.0 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 592.6 | 417.0 |
| 16.500 | 71.25 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 13885.4 | 14130.8 |
| 18.333 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 417.0 | 0.0 |
| | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 14130.8 | 14114.1 |
| 18.417 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 246.5 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 14114.1 | 14181.4 |
| 18.417 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 246.5 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 14181.4 | 14164.5 |
| 17.500 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 415.1 |
| 16.333 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 415.1 | 78.7 |
| 18.500 | 106.02 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 78.7 | 78.7 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 14164.5 | 14240.4 |
| 18.500 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 78.7 | 0.0 |
| | | | | |

| | | | | |
|----------|--------|---------------------------------|---------|---------|
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 14240.4 | 14236.9 |
| 17.583 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 169.8 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 14236.9 | 14279.5 |
| 17.583 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 169.8 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 102.2 |
| 16.333 | | | | |

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: [EV25137C.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 |
+-----+
| 221.00 221.00| Flowby Basin Model: Stream #2| 102.2 18.6|
16.333 | | |
| 221.00 223.00| Flow-Through Basin: Stream #2| 18.6 15.2|
17.250 | 3.91| |
| 221.00 222.00| Flow-Through Basin: Stream #5| 83.6 21.3|
17.833 | 12.41| |
| 223.00 222.00| Stream #5 Added to: Stream #2| 15.2 36.5|
17.583 | | |
| 222.00 222.00| Zero Out: Stream #5| 21.3 0.0|
| | |
+-----+
| 129.00 129.00| Stream #2 Added to: Stream #1| 14279.5 14315.9|
17.583 | | |
| 129.00 129.00| Zero Out: Stream #2| 36.5 0.0|
| | |
| 129.00 133.00| Convex Routing: Stream #1| 14315.9 14310.8|
17.667 | | |
| 13010.00 132.00| Subarea (UH) Added to Stream #2| 0.0 1116.2|
16.917 | | |
| 132.00 132.00| Flowby Basin Model: Stream #2| 1116.2 981.6|
16.917 | | |
+-----+
| 132.00 132.00| Flow-Through Basin: Stream #3| 134.6 99.9|
17.417 | 19.80| |
| 132.00 132.00| Split Hydrograph: Stream #3| 99.9 49.9|
17.417 | | |
| 132.00 132.00| Flow-Through Basin: Stream #3| 49.9 12.3|
18.750 | 3.75| |
| 132.00 132.00| Stream #3 Added to: Stream #2| 981.6 981.7|
16.917 | | |
| 132.00 132.00| Zero Out: Stream #3| 12.3 0.0|
| | |
+-----+
| 132.00 132.00| Flow-Through Basin: Stream #4| 49.9 10.3|
18.750 | 3.98| |
| 132.00 132.00| Stream #4 Added to: Stream #2| 981.7 981.7|
16.917 | | |
| 132.00 132.00| Zero Out: Stream #4| 10.3 0.0|
| | |
| 132.00 13305.00| Convex Routing: Stream #2| 981.7 950.8|
17.417 | | |

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| | | | | | |
|---|----------|---------------------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 950.8 | 943.2 |
| 17.667 | | | | | |
| +-----+-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | | 0.0 | 514.6 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: Stream #2 | | 943.2 | 1290.8 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 514.6 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: Stream #1 | | 14310.8 | 15593.2 |
| 17.667 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1290.8 | 0.0 |
| | | | | | |
| +-----+-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 15593.2 | 15581.4 |
| 17.833 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 595.7 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: Stream #1 | | 15581.4 | 15814.4 |
| 17.833 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 595.7 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 887.4 |
| 17.417 | | | | | |
| +-----+-----+ | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: Stream #1 | | 15814.4 | 16657.1 |
| 17.750 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 887.4 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 16657.1 | 16644.3 |
| 17.917 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 381.4 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: Stream #1 | | 16644.3 | 16815.4 |
| 17.917 | | | | | |
| +-----+-----+ | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 381.4 | 0.0 |
| | | | | | |
| 137.00 | 137.00 | View: | Stream #1 | | 16815.4 |
| 17.917 | 14270.74 | 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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 25-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV25138C.DAT
TIME/DATE OF STUDY: 02:02 08/11/2023

** 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 = 0.287; 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 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 = 0.187 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 = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

FLOW PROCESS FROM NODE 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 = 0.287; 30-MINUTE = 0.348; 1-HOUR = 0.392
3-HOUR = 0.734; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 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 = 0.287; 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 = 0.293 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 = 0.248 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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.643
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.296 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.518
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.203 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.624
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<<<<<

```

*****
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 NUMBER | Qcenter (CFS) | Qpass (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 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 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 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.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow data.

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 showing basin data.

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 = 0.589 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 = 0.287; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.322 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.481
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 = 1191.900 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 = 0.467
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) = 133.00; 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<<<<
=====

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: [EV25138C.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 13809.3 |
18.167 | | |
| 119.00 12603.00 | Convex Routing: Stream #1 | 13809.3 13737.4 |
18.083 | | |
| 810.00 809.00 | Subarea (UH) Added to Stream #2 | 0.0 87.8 |
16.250 | | |
| 809.00 12603.00 | Flow-Through Basin: Stream #2 | 87.8 47.5 |
16.417 | 13.26 | |
| 12603.00 12603.00 | Stream #2 Added to: Stream #1 | 13737.4 13767.7 |
18.083 | | |
+-----+-----+-----+-----+-----+-----+
| 12603.00 12603.00 | Zero Out: Stream #2 | 47.5 0.0 |
| | |
| 12603.00 126.00 | Convex Routing: Stream #1 | 13767.7 13753.0 |
18.250 | | |
| 920.00 905.00 | Subarea (UH) Added to Stream #2 | 0.0 223.2 |
16.250 | | |
| 905.00 126.00 | Flow-Through Basin: Stream #2 | 223.2 177.7 |
16.417 | 18.66 | |
| 126.00 126.00 | Stream #2 Added to: Stream #1 | 13753.0 13819.9 |
18.250 | | |
+-----+-----+-----+-----+-----+-----+
| 126.00 126.00 | Zero Out: Stream #2 | 177.7 0.0 |
| | |
| 600.00 126.00 | Subarea (UH) Added to Stream #2 | 0.0 62.7 |
16.333 | | |
| 126.00 126.00 | Stream #2 Added to: Stream #1 | 13819.9 13831.4 |
18.250 | | |
| 126.00 126.00 | Zero Out: Stream #2 | 62.7 0.0 |
| | |
| 126.00 12720.50 | Convex Routing: Stream #1 | 13831.4 13824.0 |
18.333 | | |
+-----+-----+-----+-----+-----+-----+
| 320.00 331.00 | Subarea (UH) Added to Stream #2 | 0.0 334.3 |
16.333 | | |
| 400.00 331.00 | Subarea (UH) Added to Stream #3 | 0.0 220.0 |
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 | 334.3 367.6 |
16.333 | | |

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|---------|---------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 36.5 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 367.6 | 587.6 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 220.0 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 587.6 | 414.1 |
| 16.500 | | 71.14 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 13824.0 | 14069.7 |
| 18.333 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 414.1 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 14069.7 | 14053.4 |
| 18.417 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 243.9 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 14053.4 | 14120.9 |
| 18.417 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 243.9 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 14120.9 | 14111.9 |
| 17.500 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 411.1 |
| 16.333 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 411.1 | 78.6 |
| 18.500 | | 105.86 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 78.6 | 78.6 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 14111.9 | 14186.3 |
| 17.500 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 78.6 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 14186.3 | 14184.0 |
| 17.583 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 167.8 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 14184.0 | 14226.6 |
| 17.583 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 167.8 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 101.3 |
| 16.333 | | | | | | |

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: [EV25138C.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) |
|--|--|---|------------------------|--------------------------|
|--|--|---|------------------------|--------------------------|

| | | | | | |
|--------|--------|---------------------|-----------|-------|------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 101.3 | 18.5 |
| 16.333 | | | | | |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 18.5 | 15.2 |
| 17.250 | 3.91 | | | | |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 82.7 | 21.3 |
| 17.917 | 12.37 | | | | |
| 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 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 14226.6 | 14263.0 |
| 17.583 | | | | | |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 36.4 | 0.0 |
| | | | | | |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 14263.0 | 14257.8 |
| 17.667 | | | | | |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1107.3 |
| 16.917 | | | | | |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 1107.3 | 974.4 |
| 16.917 | | | | | |

| | | | | | |
|--------|--------|---------------------|-----------|-------|-------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 132.9 | 98.4 |
| 17.417 | 19.77 | | | | |
| 132.00 | 132.00 | Split Hydrograph: | Stream #3 | 98.4 | 49.2 |
| 17.417 | | | | | |
| 132.00 | 132.00 | Flow-Through Basin: | Stream #3 | 49.2 | 12.3 |
| 18.750 | 3.70 | | | | |
| 132.00 | 132.00 | Stream #3 Added to: | Stream #2 | 974.4 | 974.5 |
| 16.917 | | | | | |
| 132.00 | 132.00 | Zero Out: | Stream #3 | 12.3 | 0.0 |

| | | | | | |
|--------|----------|---------------------|-----------|-------|-------|
| 132.00 | 132.00 | Flow-Through Basin: | Stream #4 | 49.2 | 10.2 |
| 18.750 | 3.92 | | | | |
| 132.00 | 132.00 | Stream #4 Added to: | Stream #2 | 974.5 | 974.5 |
| 16.917 | | | | | |
| 132.00 | 132.00 | Zero Out: | Stream #4 | 10.2 | 0.0 |
| | | | | | |
| 132.00 | 13305.00 | Convex Routing: | Stream #2 | 974.5 | 944.0 |
| 17.417 | | | | | |

| | | | | | |
|----------|--------|-----------------|-----------|-------|-------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 944.0 | 936.5 |
| 17.667 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|---------|---------|
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 510.6 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 936.5 | 1283.7 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 510.6 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 14257.8 | 15533.3 |
| 17.667 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1283.7 | 0.0 |

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 15533.3 | 15521.1 |
| 17.833 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 589.7 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 15521.1 | 15757.2 |
| 17.750 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 589.7 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 882.0 |
| 17.417 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|---------|---------|
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 15757.2 | 16596.4 |
| 17.750 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 882.0 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 16596.4 | 16583.4 |
| 17.917 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 377.9 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 16583.4 | 16754.9 |
| 17.917 | | | | | |

| | | | | | |
|--------|--------|-----------------------|-----------|---------|---------|
| 137.00 | 137.00 | Zero Out: | Stream #2 | 377.9 | 0.0 |
| | | | | | |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 16754.9 | 16742.9 |
| 18.000 | | | | | |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 349.6 |
| 16.583 | | | | | |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 16742.9 | 16913.3 |
| 18.000 | | | | | |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 349.6 | 0.0 |

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

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|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV25138C.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 |
-----+-----+
| 138.00 138.00| View: Stream #1| 16913.3|
18.000 | 14435.92| 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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Ver. 17.0 Release Date: 07/01/2010 License ID 1527

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 ROMP AMENDMENT 2022 - NODE 139 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 25-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV25139C.DAT
TIME/DATE OF STUDY: 02:01 08/11/2023

** 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 = 0.286; 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 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 = 0.187 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 = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

FLOW PROCESS FROM NODE 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 = 0.286; 30-MINUTE = 0.348; 1-HOUR = 0.391
3-HOUR = 0.733; 6-HOUR = 0.885; 24-HOUR = 0.932

*****
FLOW PROCESS FROM NODE 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 = 0.286; 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 = 0.293 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 = 0.248 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

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 = 935.000 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) = 0.294; LOW LOSS FRACTION = 0.643
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.296 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.518
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

 FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
 UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
 CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7
 =====

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

 FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

 FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
 CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
 CONSTANT LOSS RATE (CFS) = 0.00
 =====

 FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.203 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.624
 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<<<<<

```

*****
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 NUMBER | Qcenter (CFS) | Qpass (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 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
-----

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```

>>>>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 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 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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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

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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 | 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
-----

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```

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

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```

*****
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
-----

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```

>>>>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 = 0.286; 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 = 1691.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.322 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.243; LOW LOSS FRACTION = 0.481
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 = 1191.900 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 = 0.467
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<<<<
=====

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<<<<

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV25139C.DAT]

Page: 1 of 1

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

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 10100.00 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 13791.0 |
| 18.167 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 13791.0 | 13719.5 |
| 18.083 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 87.4 |
| 16.250 | | | | |
| 809.00 | 12603.00 | Flow-Through Basin: Stream #2 | 87.4 | 47.4 |
| 16.417 | 13.25 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 13719.5 | 13749.8 |
| 18.083 | | | | |
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 47.4 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 13749.8 | 13735.2 |
| 18.250 | | | | |
| 920.00 | 905.00 | Subarea (UH) Added to Stream #2 | 0.0 | 222.4 |
| 16.250 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 222.4 | 177.1 |
| 16.417 | 18.65 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 13735.2 | 13802.2 |
| 18.250 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 177.1 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 62.5 |
| 16.333 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 13802.2 | 13813.7 |
| 18.250 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 62.5 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 13813.7 | 13806.3 |
| 18.333 | | | | |
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 333.3 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 219.3 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 36.4 |
| 16.417 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 333.3 | 366.6 |
| 16.333 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 36.4 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 366.6 | 585.8 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 219.3 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 585.8 | 413.2 |
| 16.500 | 71.10 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 13806.3 | 14052.1 |
| 18.333 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 413.2 | 0.0 |
| | | | | |
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 14052.1 | 14035.9 |
| 18.417 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 243.0 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 14035.9 | 14103.5 |
| 18.417 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 243.0 | 0.0 |
| | | | | |
| 127.00 | 12902.00 | Convex Routing: Stream #1 | 14103.5 | 14096.9 |
| 17.500 | | | | |
| 50220.00 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 409.7 |
| 16.333 | | | | |
| 50347.00 | 50347.00 | Flow-Through Basin: Stream #2 | 409.7 | 78.6 |
| 18.500 | 105.81 | | | |
| 50347.00 | 12902.00 | Convex Routing: Stream #2 | 78.6 | 78.6 |
| 18.667 | | | | |
| 12902.00 | 12902.00 | Stream #2 Added to: Stream #1 | 14096.9 | 14171.2 |
| 17.500 | | | | |
| 12902.00 | 12902.00 | Zero Out: Stream #2 | 78.6 | 0.0 |
| | | | | |
| 12902.00 | 129.00 | Convex Routing: Stream #1 | 14171.2 | 14168.9 |
| 17.583 | | | | |
| 50400.00 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 167.1 |
| 16.250 | | | | |
| 129.00 | 129.00 | Stream #2 Added to: Stream #1 | 14168.9 | 14211.6 |
| 17.583 | | | | |
| 129.00 | 129.00 | Zero Out: Stream #2 | 167.1 | 0.0 |
| | | | | |
| 210.00 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 100.9 |
| 16.333 | | | | |

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: [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 |
+-----+
| 221.00 221.00| Flowby Basin Model: Stream #2| 100.9 18.5|
16.333 | | |
| 221.00 223.00| Flow-Through Basin: Stream #2| 18.5 15.2|
17.250 | 3.91| |
| 221.00 222.00| Flow-Through Basin: Stream #5| 82.4 21.2|
17.917 | 12.36| |
| 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|
| | |
+-----+
| 129.00 129.00| Stream #2 Added to: Stream #1| 14211.6 14248.0|
17.583 | | |
| 129.00 129.00| Zero Out: Stream #2| 36.3 0.0|
| | |
| 129.00 133.00| Convex Routing: Stream #1| 14248.0 14242.7|
17.667 | | |
| 13010.00 132.00| Subarea (UH) Added to Stream #2| 0.0 1104.4|
16.917 | | |
| 132.00 132.00| Flowby Basin Model: Stream #2| 1104.4 972.1|
16.917 | | |
+-----+
| 132.00 132.00| Flow-Through Basin: Stream #3| 132.3 97.9|
17.417 | 19.76| |
| 132.00 132.00| Split Hydrograph: Stream #3| 97.9 49.0|
17.417 | | |
| 132.00 132.00| Flow-Through Basin: Stream #3| 49.0 12.2|
18.750 | 3.68| |
| 132.00 132.00| Stream #3 Added to: Stream #2| 972.1 972.1|
16.917 | | |
| 132.00 132.00| Zero Out: Stream #3| 12.2 0.0|
| | |
+-----+
| 132.00 132.00| Flow-Through Basin: Stream #4| 49.0 10.1|
18.833 | 3.91| |
| 132.00 132.00| Stream #4 Added to: Stream #2| 972.1 972.1|
16.917 | | |
| 132.00 132.00| Zero Out: Stream #4| 10.1 0.0|
| | |
| 132.00 13305.00| Convex Routing: Stream #2| 972.1 941.8|
17.417 | | |

```

| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 941.8 | 934.4 |
| 17.667 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 509.3 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 934.4 | 1281.5 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 509.3 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 14242.7 | 15516.1 |
| 17.667 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1281.5 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 15516.1 | 15504.0 |
| 17.833 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 587.7 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 15504.0 | 15740.6 |
| 17.750 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 587.7 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 880.4 |
| 17.417 | | | | | |
| +-----+ | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 15740.6 | 16578.6 |
| 17.750 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 880.4 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 16578.6 | 16565.5 |
| 17.917 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 376.7 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 16565.5 | 16737.2 |
| 17.917 | | | | | |
| +-----+ | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 376.7 | 0.0 |
| | | | | | |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 16737.2 | 16727.4 |
| 18.000 | | | | | |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 348.5 |
| 16.583 | | | | | |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 16727.4 | 16897.9 |
| 18.000 | | | | | |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 348.5 | 0.0 |
| | | | | | |

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

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

| INPUT FILENAME: [EV25139C.DAT]

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| UPSTREAM TIME (2) TO | DOWNSTREAM MAX. STORAGE | HYDROLOGIC/HYDRAULIC PROCESS | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------------|----------------------------|------------------------------|------------------------|--------------------------|
| NODE # | NODE # | MODELED (AF) | FOOTNOTES | |
| 138.00 | 139.00 | Convex Routing: | Stream #1 | 16897.9 |
| 18.083 | | | | 16892.4 |
| 138.00 | 139.00 | Subarea (UH) Added to | Stream #2 | 0.0 |
| 16.333 | | | | 176.3 |
| 139.00 | 139.00 | Stream #2 Added to: | Stream #1 | 16892.4 |
| 18.083 | | | | 16944.6 |
| 139.00 | 139.00 | Zero Out: | Stream #2 | 176.3 |
| | | | | 0.0 |
| 139.00 | 139.00 | View: | Stream #1 | 16944.6 |
| 18.083 | 14491.96 | 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)
(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 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 50-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV50126C.DAT
TIME/DATE OF STUDY: 17:48 05/15/2023

** 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 = 2.043 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 = 0.341; 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 = 0.185 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.391
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 809.00 TO NODE 809.00 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) = 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 126.00 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 = 0.219 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.457
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 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 = 0.295 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.732
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
-----

```


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 BODR 2022 - NODE 127 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL - SINGLE BASIN *
* 50-YR EV MAY 2023 ROKAMOTO *

FILE NAME: EV50127C.DAT
TIME/DATE OF STUDY: 17:48 05/15/2023

** 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 = 2.043 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

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 = 0.185 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.391
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

FLOW PROCESS FROM NODE 809.00 TO NODE 809.00 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 126.00 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 = 0.219 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.457
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 24-HOUR = 0.941

*****
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 = 0.295 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.732
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.412 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.610
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 = 0.333; 30-MINUTE = 0.385; 1-HOUR = 0.425
3-HOUR = 0.775; 6-HOUR = 0.899; 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: [EV50127C.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 | 17580.9 |
| 18.083 | | | | |
| 119.00 | 12603.00 | Convex Routing: Stream #1 | 17580.9 | 17453.9 |
| 18.083 | | | | |
| 810.00 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 116.2 |
| 16.250 | | | | |
| 809.00 | 809.00 | Flow-Through Basin: Stream #2 | 116.2 | 67.9 |
| 16.417 | 13.89 | | | |
| 12603.00 | 12603.00 | Stream #2 Added to: Stream #1 | 17453.9 | 17488.5 |
| 18.083 | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 12603.00 | 12603.00 | Zero Out: Stream #2 | 67.9 | 0.0 |
| | | | | |
| 12603.00 | 126.00 | Convex Routing: Stream #1 | 17488.5 | 17468.4 |
| 18.167 | | | | |
| 920.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 302.7 |
| 16.250 | | | | |
| 905.00 | 126.00 | Flow-Through Basin: Stream #2 | 302.7 | 238.3 |
| 16.417 | 19.56 | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 17468.4 | 17549.2 |
| 18.167 | | | | |

| | | | | |
|--------|----------|---------------------------------|---------|---------|
| 126.00 | 126.00 | Zero Out: Stream #2 | 238.3 | 0.0 |
| | | | | |
| 600.00 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 89.6 |
| 16.333 | | | | |
| 126.00 | 126.00 | Stream #2 Added to: Stream #1 | 17549.2 | 17564.2 |
| 18.167 | | | | |
| 126.00 | 126.00 | Zero Out: Stream #2 | 89.6 | 0.0 |
| | | | | |
| 126.00 | 12720.50 | Convex Routing: Stream #1 | 17564.2 | 17557.3 |
| 18.250 | | | | |

| | | | | |
|--------|--------|---------------------------------|-------|-------|
| 320.00 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 429.0 |
| 16.333 | | | | |
| 400.00 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 283.8 |
| 16.333 | | | | |
| 390.00 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 49.0 |
| 16.417 | | | | |
| 331.00 | 331.00 | Stream #4 Added to: Stream #2 | 429.0 | 473.9 |
| 16.333 | | | | |

| | | | | |
|----------|----------|-------------------------------|---------|---------|
| 331.00 | 331.00 | Zero Out: Stream #4 | 49.0 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Stream #3 Added to: Stream #2 | 473.9 | 757.7 |
| 16.333 | | | | |
| 331.00 | 331.00 | Zero Out: Stream #3 | 283.8 | 0.0 |
| | | | | |
| 331.00 | 331.00 | Flow-Through Basin: Stream #2 | 757.7 | 524.6 |
| 16.500 | 75.30 | | | |
| 331.00 | 12720.50 | Stream #2 Added to: Stream #1 | 17557.3 | 17835.6 |
| 18.250 | | | | |
| 12720.50 | 12720.50 | Zero Out: Stream #2 | 524.6 | 0.0 |
| | | | | |

| | | | | |
|----------|----------|---------------------------------|---------|---------|
| 12720.50 | 127.00 | Convex Routing: Stream #1 | 17835.6 | 17802.5 |
| 18.333 | | | | |
| 12710.00 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 332.5 |
| 16.500 | | | | |
| 127.00 | 127.00 | Stream #2 Added to: Stream #1 | 17802.5 | 17889.1 |
| 18.333 | | | | |
| 127.00 | 127.00 | Zero Out: Stream #2 | 332.5 | 0.0 |
| | | | | |
| 127.00 | 127.00 | View: Stream #1 | | 17889.1 |
| 18.333 | 14652.54 | 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 137 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 50-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV50137C.DAT
TIME/DATE OF STUDY: 01:51 08/11/2023

** 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 = 2.043 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 = 0.291; 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 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 = 0.185 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.391
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 809.00 TO NODE 809.00 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 126.00 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 = 0.219 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.457
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 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 = 0.295 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.732
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
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 | 1416.00 | 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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.412 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.610
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 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.304 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.490
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.200 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.598
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<<<<<

```

*****
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

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```

*****
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 NUMBER | Qcenter (CFS) | Qpass (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 | 0.320 |
| 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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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
-----

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```

>>>>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 = 1691.600 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) = 0.243; LOW LOSS FRACTION = 0.452
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 = 1191.900 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 = 0.440
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 138.00 TO NODE 138.00 IS CODE = 11

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

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV50137C.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 18.083 | 119.00 | Subarea (UH) Added to Stream #1 | 0.0 | 16623.0 |
| 119.00 18.083 | 12603.00 | Convex Routing: Stream #1 | 16623.0 | 16514.4 |
| 810.00 16.250 | 809.00 | Subarea (UH) Added to Stream #2 | 0.0 | 101.2 |
| 809.00 16.417 | 809.00 13.63 | Flow-Through Basin: Stream #2 | 101.2 | 59.4 |
| 12603.00 18.083 | 12603.00 | Stream #2 Added to: Stream #1 | 16514.4 | 16549.4 |
| 12603.00 18.167 | 12603.00 | Zero Out: Stream #2 | 59.4 | 0.0 |
| 12603.00 18.167 | 126.00 | Convex Routing: Stream #1 | 16549.4 | 16535.4 |
| 920.00 16.250 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 262.0 |
| 905.00 16.417 | 126.00 19.13 | Flow-Through Basin: Stream #2 | 262.0 | 207.3 |
| 126.00 18.167 | 126.00 | Stream #2 Added to: Stream #1 | 16535.4 | 16619.8 |
| 126.00 16.333 | 126.00 | Zero Out: Stream #2 | 207.3 | 0.0 |
| 600.00 18.167 | 126.00 | Subarea (UH) Added to Stream #2 | 0.0 | 76.0 |
| 126.00 18.167 | 126.00 | Stream #2 Added to: Stream #1 | 16619.8 | 16635.5 |
| 126.00 18.167 | 126.00 | Zero Out: Stream #2 | 76.0 | 0.0 |
| 126.00 18.250 | 12720.50 | Convex Routing: Stream #1 | 16635.5 | 16627.7 |
| 320.00 16.333 | 331.00 | Subarea (UH) Added to Stream #2 | 0.0 | 381.7 |
| 400.00 16.333 | 331.00 | Subarea (UH) Added to Stream #3 | 0.0 | 250.4 |
| 390.00 16.417 | 331.00 | Subarea (UH) Added to Stream #4 | 0.0 | 43.0 |
| 331.00 16.333 | 331.00 | Stream #4 Added to: Stream #2 | 381.7 | 421.3 |

| | | | | |
|--------------------|--------------------|---------------------------------|---------|---------|
| 331.00 16.333 | 331.00 | Zero Out: Stream #4 | 43.0 | 0.0 |
| 331.00 16.333 | 331.00 | Stream #3 Added to: Stream #2 | 421.3 | 671.7 |
| 331.00 16.500 | 331.00 | Zero Out: Stream #3 | 250.4 | 0.0 |
| 331.00 16.500 | 331.00 | Flow-Through Basin: Stream #2 | 671.7 | 477.1 |
| 331.00 18.250 | 12720.50 | Stream #2 Added to: Stream #1 | 16627.7 | 16910.2 |
| 12720.50 18.250 | 12720.50 | Zero Out: Stream #2 | 477.1 | 0.0 |
| 12720.50 18.333 | 127.00 | Convex Routing: Stream #1 | 16910.2 | 16885.0 |
| 12710.00 16.500 | 127.00 | Subarea (UH) Added to Stream #2 | 0.0 | 289.4 |
| 127.00 17.417 | 127.00 | Stream #2 Added to: Stream #1 | 16885.0 | 16994.4 |
| 127.00 17.417 | 127.00 | Zero Out: Stream #2 | 289.4 | 0.0 |
| 127.00 17.417 | 12902.00 | Convex Routing: Stream #1 | 16994.4 | 16987.9 |
| 50220.00 16.333 | 50347.00 | Subarea (UH) Added to Stream #2 | 0.0 | 467.4 |
| 50347.00 18.583 | 50347.00 124.31 | Flow-Through Basin: Stream #2 | 467.4 | 90.2 |
| 50347.00 18.667 | 12902.00 | Convex Routing: Stream #2 | 90.2 | 90.2 |
| 12902.00 17.500 | 12902.00 | Stream #2 Added to: Stream #1 | 16987.9 | 17073.6 |
| 12902.00 17.500 | 12902.00 | Zero Out: Stream #2 | 90.2 | 0.0 |
| 12902.00 17.500 | 129.00 | Convex Routing: Stream #1 | 17073.6 | 17071.4 |
| 50400.00 16.250 | 129.00 | Subarea (UH) Added to Stream #2 | 0.0 | 197.3 |
| 129.00 17.500 | 129.00 | Stream #2 Added to: Stream #1 | 17071.4 | 17123.7 |
| 129.00 17.500 | 129.00 | Zero Out: Stream #2 | 197.3 | 0.0 |
| 210.00 16.333 | 221.00 | Subarea (UH) Added to Stream #2 | 0.0 | 115.3 |

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: [EV50137C.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 |
-----+-----+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 115.3    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    26.2|
17.917 | 15.01| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 15.8    41.8|
17.750 | | |
| 222.00    222.00| Zero Out:           Stream #5| 26.2    0.0|
| | |
-----+-----+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1| 17123.7  17165.3|
17.500 | | |
| 129.00    129.00| Zero Out:           Stream #2| 41.8    0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 17165.3  17159.6|
17.583 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0    1298.9|
16.833 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1298.9  1129.4|
16.833 | | |
-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 169.5    160.0|
17.083 | 20.75| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 160.0    80.0|
17.083 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 80.0    17.9|
18.833 | 8.75| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1129.4  1139.4|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #3| 17.9    0.0|
| | |
-----+-----+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #4| 80.0    18.3|
18.833 | 8.86| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1139.4  1147.3|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #4| 18.3    0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1147.3  1134.4|
17.333 | | |

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| | | | | | |
|---|----------|---------------------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1134.4 | 1122.2 |
| 17.583 | | | | | |
| +-----+-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to Stream #3 | | 0.0 | 579.3 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1122.2 | 1551.8 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 579.3 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 17159.6 | 18702.9 |
| 17.583 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1551.8 | 0.0 |
| | | | | | |
| +-----+-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 18702.9 | 18688.4 |
| 17.667 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 684.8 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 18688.4 | 18979.1 |
| 17.667 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 684.8 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 1049.7 |
| 17.333 | | | | | |
| +-----+-----+ | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 18979.1 | 19982.2 |
| 17.667 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 1049.7 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 19982.2 | 19965.7 |
| 17.833 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 439.9 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 19965.7 | 20173.9 |
| 17.750 | | | | | |
| +-----+-----+ | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 439.9 | 0.0 |
| | | | | | |
| 138.00 | 138.00 | View: | Stream #1 | | 20173.9 |
| 17.750 | 17053.62 | 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 138 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 50-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV50138C.DAT
TIME/DATE OF STUDY: 01:51 08/11/2023

** 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 = 2.043 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 = 0.287; 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 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 = 0.185 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.391
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 809.00 TO NODE 809.00 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 126.00 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 = 0.219 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.457
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 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 |

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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<<<<
=====

*****
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 = 0.295 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.732
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

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
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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.412 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.610
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.304 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.490
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.200 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.598
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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 221.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
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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 | 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

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 223.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<
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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 |

| INTERVAL NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (AF) |
|-----------------|------------|---------------|--------------|
| 2 | 1.00 | 0.01 | 0.320 |
| 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 |

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*****
FLOW PROCESS FROM NODE 221.00 TO NODE 222.00 IS CODE = 3.1
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>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
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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<<<<<

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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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 = 0.287; 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 = 1691.600 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) = 0.243; LOW LOSS FRACTION = 0.452
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 = 1191.900 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 = 0.440
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<<<<
=====

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 138.00 IS CODE = 11
=====

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

-----+-----
| * 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 |
+-----+-----+-----+-----+-----+-----+
| 10100.00 119.00| Subarea (UH) Added to Stream #1| 0.0 16547.9|
18.083 | | |
| 119.00 12603.00| Convex Routing: Stream #1| 16547.9 16440.3|
18.083 | | |
| 810.00 809.00| Subarea (UH) Added to Stream #2| 0.0 100.2|
16.250 | | |
| 809.00 809.00| Flow-Through Basin: Stream #2| 100.2 58.9|
16.417 | 13.62| |
| 12603.00 12603.00| Stream #2 Added to: Stream #1| 16440.3 16475.4|
18.083 | | |
+-----+-----+-----+-----+-----+-----+
| 12603.00 12603.00| Zero Out: Stream #2| 58.9 0.0|
| | | |
| 12603.00 126.00| Convex Routing: Stream #1| 16475.4 16461.8|
18.167 | | |
| 920.00 126.00| Subarea (UH) Added to Stream #2| 0.0 259.4|
16.250 | | |
| 905.00 126.00| Flow-Through Basin: Stream #2| 259.4 205.4|
16.417 | 19.10| |
| 126.00 126.00| Stream #2 Added to: Stream #1| 16461.8 16546.6|
18.167 | | |
+-----+-----+-----+-----+-----+-----+
| 126.00 126.00| Zero Out: Stream #2| 205.4 0.0|
| | | |
| 600.00 126.00| Subarea (UH) Added to Stream #2| 0.0 75.1|
16.333 | | |
| 126.00 126.00| Stream #2 Added to: Stream #1| 16546.6 16562.3|
18.167 | | |
| 126.00 126.00| Zero Out: Stream #2| 75.1 0.0|
| | | |
| 126.00 12720.50| Convex Routing: Stream #1| 16562.3 16554.5|
18.250 | | |
+-----+-----+-----+-----+-----+-----+
| 320.00 331.00| Subarea (UH) Added to Stream #2| 0.0 378.7|
16.333 | | |
| 400.00 331.00| Subarea (UH) Added to Stream #3| 0.0 248.2|
16.333 | | |
| 390.00 331.00| Subarea (UH) Added to Stream #4| 0.0 42.6|
16.417 | | |
| 331.00 331.00| Stream #4 Added to: Stream #2| 378.7 418.0|
16.333 | | |

| | | | | | | |
|---------|----------|----------|-----------------------|-----------|---------|---------|
| | 331.00 | 331.00 | Zero Out: | Stream #4 | 42.6 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 331.00 | 331.00 | Stream #3 Added to: | Stream #2 | 418.0 | 666.2 |
| 16.333 | | | | | | |
| | 331.00 | 331.00 | Zero Out: | Stream #3 | 248.2 | 0.0 |
| | | | | | | |
| | 331.00 | 331.00 | Flow-Through Basin: | Stream #2 | 666.2 | 473.9 |
| 16.500 | | 73.37 | | | | |
| | 331.00 | 12720.50 | Stream #2 Added to: | Stream #1 | 16554.5 | 16837.4 |
| 18.250 | | | | | | |
| | 12720.50 | 12720.50 | Zero Out: | Stream #2 | 473.9 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12720.50 | 127.00 | Convex Routing: | Stream #1 | 16837.4 | 16812.5 |
| 18.333 | | | | | | |
| | 12710.00 | 127.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 286.4 |
| 16.500 | | | | | | |
| | 127.00 | 127.00 | Stream #2 Added to: | Stream #1 | 16812.5 | 16928.8 |
| 17.417 | | | | | | |
| | 127.00 | 127.00 | Zero Out: | Stream #2 | 286.4 | 0.0 |
| | | | | | | |
| | 127.00 | 12902.00 | Convex Routing: | Stream #1 | 16928.8 | 16924.6 |
| 17.417 | | | | | | |
| +-----+ | | | | | | |
| | 50220.00 | 50347.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 463.0 |
| 16.333 | | | | | | |
| | 50347.00 | 50347.00 | Flow-Through Basin: | Stream #2 | 463.0 | 90.0 |
| 18.583 | | 124.05 | | | | |
| | 50347.00 | 12902.00 | Convex Routing: | Stream #2 | 90.0 | 90.0 |
| 18.667 | | | | | | |
| | 12902.00 | 12902.00 | Stream #2 Added to: | Stream #1 | 16924.6 | 17009.7 |
| 17.417 | | | | | | |
| | 12902.00 | 12902.00 | Zero Out: | Stream #2 | 90.0 | 0.0 |
| | | | | | | |
| +-----+ | | | | | | |
| | 12902.00 | 129.00 | Convex Routing: | Stream #1 | 17009.7 | 17007.5 |
| 17.500 | | | | | | |
| | 50400.00 | 129.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 195.1 |
| 16.250 | | | | | | |
| | 129.00 | 129.00 | Stream #2 Added to: | Stream #1 | 17007.5 | 17059.9 |
| 17.500 | | | | | | |
| | 129.00 | 129.00 | Zero Out: | Stream #2 | 195.1 | 0.0 |
| | | | | | | |
| | 210.00 | 221.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 114.2 |
| 16.333 | | | | | | |

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: [EV50138C.DAT]

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| UPSTREAM TIME (2) TO | DOWNSTREAM MAX. STORAGE | | UPSTREAM PEAK (CFS) | DOWNSTREAM PEAK (CFS) |
|-------------------------|----------------------------|---------------------|------------------------|--------------------------|
| 221.00 | 221.00 | Flowby Basin Model: | Stream #2 | 114.2 |
| 16.333 | | | | 19.4 |
| 221.00 | 223.00 | Flow-Through Basin: | Stream #2 | 19.4 |
| 17.250 | 3.99 | | | 15.8 |
| 221.00 | 222.00 | Flow-Through Basin: | Stream #5 | 94.8 |
| 18.000 | 14.98 | | | 26.0 |
| 223.00 | 222.00 | Stream #5 Added to: | Stream #2 | 15.8 |
| 17.833 | | | | 41.6 |
| 222.00 | 222.00 | Zero Out: | Stream #5 | 26.0 |
| | | | | 0.0 |

| | | | | |
|----------|--------|-----------------------|-----------|---------|
| 222.00 | 129.00 | Stream #2 Added to: | Stream #1 | 17059.9 |
| 17.500 | | | | 17101.2 |
| 129.00 | 129.00 | Zero Out: | Stream #2 | 41.6 |
| | | | | 0.0 |
| 129.00 | 133.00 | Convex Routing: | Stream #1 | 17101.2 |
| 17.583 | | | | 17095.1 |
| 13010.00 | 132.00 | Subarea (UH) Added to | Stream #2 | 0.0 |
| 16.833 | | | | 1288.9 |
| 132.00 | 132.00 | Flowby Basin Model: | Stream #2 | 1288.9 |
| 16.833 | | | | 1121.3 |

| | | | | |
|--------|--------|---------------------|-----------|--------|
| 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 | 8.68 | | | 17.8 |
| 132.00 | 132.00 | Stream #3 Added to: | Stream #2 | 1121.3 |
| 16.833 | | | | 1131.2 |
| 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 | 8.79 | | | 18.3 |
| 132.00 | 132.00 | Stream #4 Added to: | Stream #2 | 1131.2 |
| 16.833 | | | | 1139.0 |
| 132.00 | 132.00 | Zero Out: | Stream #4 | 18.3 |
| | | | | 0.0 |
| 132.00 | 13305.00 | Convex Routing: | Stream #2 | 1139.0 |
| 17.333 | | | | 1126.0 |

| | | | | |
|----------|--------|-----------------|-----------|--------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1126.0 |
| 17.583 | | | | 1113.9 |

| | | | | |
|--------|--------|-----------------------|-----------|---------|
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 |
| 16.667 | | | | 574.9 |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1113.9 |
| 17.500 | | | | 1541.9 |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 574.9 |
| | | | | 0.0 |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 17095.1 |
| 17.500 | | | | 18630.0 |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1541.9 |
| | | | | 0.0 |

| | | | | |
|----------|--------|-----------------------|-----------|---------|
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 18630.0 |
| 17.667 | | | | 18616.5 |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 |
| 16.417 | | | | 678.2 |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 18616.5 |
| 17.667 | | | | 18907.8 |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 678.2 |
| | | | | 0.0 |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 |
| 17.333 | | | | 1043.3 |

| | | | | |
|--------|--------|-----------------------|-----------|---------|
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 18907.8 |
| 17.667 | | | | 19905.9 |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 1043.3 |
| | | | | 0.0 |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 19905.9 |
| 17.833 | | | | 19889.2 |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 |
| 16.500 | | | | 435.9 |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 19889.2 |
| 17.750 | | | | 20099.3 |

| | | | | |
|--------|--------|-----------------------|-----------|---------|
| 137.00 | 137.00 | Zero Out: | Stream #2 | 435.9 |
| | | | | 0.0 |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 20099.3 |
| 17.917 | | | | 20093.8 |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 |
| 16.583 | | | | 410.2 |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 20093.8 |
| 17.917 | | | | 20302.3 |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 410.2 |
| | | | | 0.0 |

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

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|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV50138C.DAT ]
Page: 3 of |
-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
-----+-----+-----+-----+
| 138.00 139.00| Convex Routing: Stream #1| 20302.3 20293.5|
17.917 | | |
| 138.00 138.00| View: Stream #1| 20293.5|
17.917 | 17247.23| 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)
(c) Copyright 1989-2010 Advanced Engineering Software (aes)
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Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RMV PA-3 ROMP AMENDMENT 2022 - NODE 139 *
* REGIONAL UNIT HYDROGRAPH - COMPLEX MODEL *
* 50-YR EV AUG 2023 ROKAMOTO *

FILE NAME: EV50139C.DAT
TIME/DATE OF STUDY: 01:50 08/11/2023

** 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 = 2.043 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 = 0.286; 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 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 = 0.185 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.174; LOW LOSS FRACTION = 0.391
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 809.00 TO NODE 809.00 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) = 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 126.00 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 = 0.219 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.254; LOW LOSS FRACTION = 0.457
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 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 |

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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<<<<
=====

*****
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 = 0.295 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.290; LOW LOSS FRACTION = 0.732
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 = 935.000 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.412 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.294; LOW LOSS FRACTION = 0.610
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 127.00 TO NODE 12902.00 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) = 215.00
CHANNEL LENGTH(FT) = 3242.32 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

FLOW PROCESS FROM NODE 50220.00 TO NODE 50347.00 IS CODE = 1

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

WATERSHED AREA = 1120.700 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.304 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.217; LOW LOSS FRACTION = 0.490
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 50347.00 TO NODE 50347.00 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 | 20.810 |
| 3 | 2.00 | 21.50 | 41.790 |
| 4 | 3.00 | 41.20 | 62.950 |
| 5 | 4.00 | 61.80 | 84.280 |
| 6 | 5.00 | 78.60 | 105.800 |
| 7 | 6.00 | 92.20 | 127.490 |
| 8 | 7.00 | 104.10 | 149.370 |
| 9 | 8.00 | 114.70 | 171.430 |
| 10 | 9.00 | 124.40 | 193.670 |
| 11 | 10.00 | 133.40 | 216.090 |

FLOW PROCESS FROM NODE 50347.00 TO NODE 12902.00 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) = 20.00 CHANNEL Z = 5.00
UPSTREAM ELEVATION (FT) = 313.00; DOWNSTREAM ELEVATION (FT) = 215.00
CHANNEL LENGTH (FT) = 2700.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 7

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

FLOW PROCESS FROM NODE 12902.00 TO NODE 12902.00 IS CODE = 6

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

FLOW PROCESS FROM NODE 12902.00 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) = 215.00; DOWNSTREAM ELEVATION (FT) = 213.00
CHANNEL LENGTH (FT) = 1663.10 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 50400.00 TO NODE 129.00 IS CODE = 1

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

WATERSHED AREA = 417.100 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.200 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.272; LOW LOSS FRACTION = 0.598
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<<<<<

```

=====
*****
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 NUMBER | Qcenter (CFS) | Qpass (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 | 0.320 |
| 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 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<<<<<

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 NUMBER | DEPTH (FT) | OUTFLOW (CFS) | STORAGE (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 = 1691.600 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) = 0.243; LOW LOSS FRACTION = 0.452
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 = 1191.900 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 = 0.440
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<<<<
=====

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 = 0.245 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<<<<

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

INPUT FILENAME: [EV50139C.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 | 16526.1 |
| 18.083 | | | | | |
| 119.00 | 12603.00 | | Convex Routing: Stream #1 | 16526.1 | 16419.0 |
| 18.083 | | | | | |
| 810.00 | 809.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 99.8 |
| 16.250 | | | | | |
| 809.00 | 809.00 | | Flow-Through Basin: Stream #2 | 99.8 | 58.7 |
| 16.417 | 13.61 | | | | |
| 12603.00 | 12603.00 | | Stream #2 Added to: Stream #1 | 16419.0 | 16454.1 |
| 18.083 | | | | | |
| 12603.00 | 12603.00 | | Zero Out: Stream #2 | 58.7 | 0.0 |
| | | | | | |
| 12603.00 | 126.00 | | Convex Routing: Stream #1 | 16454.1 | 16440.6 |
| 18.167 | | | | | |
| 920.00 | 126.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 258.4 |
| 16.250 | | | | | |
| 905.00 | 126.00 | | Flow-Through Basin: Stream #2 | 258.4 | 204.8 |
| 16.417 | 19.09 | | | | |
| 126.00 | 126.00 | | Stream #2 Added to: Stream #1 | 16440.6 | 16525.5 |
| 18.167 | | | | | |
| 126.00 | 126.00 | | Zero Out: Stream #2 | 204.8 | 0.0 |
| | | | | | |
| 600.00 | 126.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 74.8 |
| 16.333 | | | | | |
| 126.00 | 126.00 | | Stream #2 Added to: Stream #1 | 16525.5 | 16541.2 |
| 18.167 | | | | | |
| 126.00 | 126.00 | | Zero Out: Stream #2 | 74.8 | 0.0 |
| | | | | | |
| 126.00 | 12720.50 | | Convex Routing: Stream #1 | 16541.2 | 16533.4 |
| 18.250 | | | | | |
| 320.00 | 331.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 377.6 |
| 16.333 | | | | | |
| 400.00 | 331.00 | | Subarea (UH) Added to Stream #3 | 0.0 | 247.4 |
| 16.333 | | | | | |
| 390.00 | 331.00 | | Subarea (UH) Added to Stream #4 | 0.0 | 42.5 |
| 16.417 | | | | | |
| 331.00 | 331.00 | | Stream #4 Added to: Stream #2 | 377.6 | 416.8 |
| 16.333 | | | | | |

| | | | | | |
|----------|----------|--|---------------------------------|---------|---------|
| 331.00 | 331.00 | | Zero Out: Stream #4 | 42.5 | 0.0 |
| | | | | | |
| 331.00 | 331.00 | | Stream #3 Added to: Stream #2 | 416.8 | 664.2 |
| 16.333 | | | | | |
| 331.00 | 331.00 | | Zero Out: Stream #3 | 247.4 | 0.0 |
| | | | | | |
| 331.00 | 331.00 | | Flow-Through Basin: Stream #2 | 664.2 | 472.8 |
| 16.500 | 73.33 | | | | |
| 331.00 | 12720.50 | | Stream #2 Added to: Stream #1 | 16533.4 | 16816.4 |
| 18.250 | | | | | |
| 12720.50 | 12720.50 | | Zero Out: Stream #2 | 472.8 | 0.0 |
| | | | | | |
| 12720.50 | 127.00 | | Convex Routing: Stream #1 | 16816.4 | 16791.8 |
| 18.333 | | | | | |
| 12710.00 | 127.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 285.4 |
| 16.500 | | | | | |
| 127.00 | 127.00 | | Stream #2 Added to: Stream #1 | 16791.8 | 16910.3 |
| 17.417 | | | | | |
| 127.00 | 127.00 | | Zero Out: Stream #2 | 285.4 | 0.0 |
| | | | | | |
| 127.00 | 12902.00 | | Convex Routing: Stream #1 | 16910.3 | 16906.5 |
| 17.417 | | | | | |
| 50220.00 | 50347.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 461.4 |
| 16.333 | | | | | |
| 50347.00 | 50347.00 | | Flow-Through Basin: Stream #2 | 461.4 | 90.0 |
| 18.583 | 123.97 | | | | |
| 50347.00 | 12902.00 | | Convex Routing: Stream #2 | 90.0 | 90.0 |
| 18.667 | | | | | |
| 12902.00 | 12902.00 | | Stream #2 Added to: Stream #1 | 16906.5 | 16991.6 |
| 17.417 | | | | | |
| 12902.00 | 12902.00 | | Zero Out: Stream #2 | 90.0 | 0.0 |
| | | | | | |
| 12902.00 | 129.00 | | Convex Routing: Stream #1 | 16991.6 | 16989.3 |
| 17.500 | | | | | |
| 50400.00 | 129.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 194.3 |
| 16.250 | | | | | |
| 129.00 | 129.00 | | Stream #2 Added to: Stream #1 | 16989.3 | 17041.8 |
| 17.500 | | | | | |
| 129.00 | 129.00 | | Zero Out: Stream #2 | 194.3 | 0.0 |
| | | | | | |
| 210.00 | 221.00 | | Subarea (UH) Added to Stream #2 | 0.0 | 113.9 |
| 16.333 | | | | | |

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: [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 |
+-----+
| 221.00    221.00| Flowby Basin Model:  Stream #2| 113.9    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| 94.5     26.0|
18.000 | 14.96| |
| 223.00    222.00| Stream #5 Added to:  Stream #2| 15.8     41.5|
17.833 | | |
| 222.00    222.00| Zero Out:           Stream #5| 26.0     0.0|
| | |
+-----+
| 222.00    129.00| Stream #2 Added to:  Stream #1| 17041.8  17083.0|
17.500 | | |
| 129.00    129.00| Zero Out:           Stream #2| 41.5     0.0|
| | |
| 129.00    133.00| Convex Routing:     Stream #1| 17083.0  17076.8|
17.583 | | |
| 13010.00  132.00| Subarea (UH) Added to Stream #2| 0.0     1285.6|
16.833 | | |
| 132.00    132.00| Flowby Basin Model:  Stream #2| 1285.6   1118.6|
16.833 | | |
+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #3| 167.0    157.6|
17.083 | 20.71| |
| 132.00    132.00| Split Hydrograph:   Stream #3| 157.6    78.8|
17.083 | | |
| 132.00    132.00| Flow-Through Basin:  Stream #3| 78.8     17.8|
18.833 | 8.66| |
| 132.00    132.00| Stream #3 Added to:  Stream #2| 1118.6   1128.5|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #3| 17.8     0.0|
| | |
+-----+
| 132.00    132.00| Flow-Through Basin:  Stream #4| 78.8     18.3|
18.833 | 8.77| |
| 132.00    132.00| Stream #4 Added to:  Stream #2| 1128.5   1136.3|
16.833 | | |
| 132.00    132.00| Zero Out:           Stream #4| 18.3     0.0|
| | |
| 132.00    13305.00| Convex Routing:     Stream #2| 1136.3   1123.8|
17.333 | | |

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| | | | | | |
|----------|--------|-----------------------|-----------|---------|---------|
| 13305.00 | 133.00 | Convex Routing: | Stream #2 | 1123.8 | 1111.8 |
| 17.583 | | | | | |
| +-----+ | | | | | |
| 132.00 | 133.00 | Subarea (UH) Added to | Stream #3 | 0.0 | 573.6 |
| 16.667 | | | | | |
| 133.00 | 133.00 | Stream #3 Added to: | Stream #2 | 1111.8 | 1539.8 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #3 | 573.6 | 0.0 |
| | | | | | |
| 133.00 | 133.00 | Stream #2 Added to: | Stream #1 | 17076.8 | 18610.2 |
| 17.500 | | | | | |
| 133.00 | 133.00 | Zero Out: | Stream #2 | 1539.8 | 0.0 |
| | | | | | |
| +-----+ | | | | | |
| 133.00 | 134.00 | Convex Routing: | Stream #1 | 18610.2 | 18596.6 |
| 17.667 | | | | | |
| 133.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 675.9 |
| 16.417 | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 18596.6 | 18888.2 |
| 17.667 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 675.9 | 0.0 |
| | | | | | |
| 13500.00 | 134.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 1041.4 |
| 17.333 | | | | | |
| +-----+ | | | | | |
| 134.00 | 134.00 | Stream #2 Added to: | Stream #1 | 18888.2 | 19884.7 |
| 17.667 | | | | | |
| 134.00 | 134.00 | Zero Out: | Stream #2 | 1041.4 | 0.0 |
| | | | | | |
| 134.00 | 137.00 | Convex Routing: | Stream #1 | 19884.7 | 19868.0 |
| 17.833 | | | | | |
| 134.00 | 137.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 434.6 |
| 16.500 | | | | | |
| 137.00 | 137.00 | Stream #2 Added to: | Stream #1 | 19868.0 | 20078.9 |
| 17.750 | | | | | |
| +-----+ | | | | | |
| 137.00 | 137.00 | Zero Out: | Stream #2 | 434.6 | 0.0 |
| | | | | | |
| 137.00 | 138.00 | Convex Routing: | Stream #1 | 20078.9 | 20072.9 |
| 17.917 | | | | | |
| 137.00 | 138.00 | Subarea (UH) Added to | Stream #2 | 0.0 | 409.0 |
| 16.583 | | | | | |
| 138.00 | 138.00 | Stream #2 Added to: | Stream #1 | 20072.9 | 20281.6 |
| 17.917 | | | | | |
| 138.00 | 138.00 | Zero Out: | Stream #2 | 409.0 | 0.0 |
| | | | | | |

Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL
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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 | | PEAK (CFS) | PEAK (CFS) |
| NODE # | NODE # | HYDROLOGIC/HYDRAULIC PROCESS | | |
| PEAK (HR) | MODELED (AF) | FOOTNOTES | | |

| | | | | | |
|--------|----------|---------------------------------|-----------|---------|---------|
| 138.00 | 139.00 | Convex Routing: | Stream #1 | 20281.6 | 20273.2 |
| 17.917 | | | | | |
| 138.00 | 139.00 | Subarea (UH) Added to Stream #2 | | 0.0 | 200.8 |
| 16.333 | | | | | |
| 139.00 | 139.00 | Stream #2 Added to: | Stream #1 | 20273.2 | 20336.8 |
| 17.917 | | | | | |
| 139.00 | 139.00 | Zero Out: | Stream #2 | 200.8 | 0.0 |
| | | | | | |
| 139.00 | 139.00 | View: | Stream #1 | | 20336.8 |
| 17.917 | 17326.11 | 3 | | | |

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